

HUMAN SCIENCE:

OR,

PHRENOLOGY;

ITS

PRINCIPLES, PROOFS, FACULTIES, ORGANS, TEMPERAMENTS, COMBINATIONS, CONDITIONS, TEACHINGS, PHILOSOPHIES, ETC., ETC.,

AS APPLIED TO

HEALTH,

ITS

VALUE, LAWS, FUNCTIONS, ORGANS, MEANS, PRESERVATION, RESTORATION, ETC.:

MENTAL PHILOSOPHY,

HUMAN AND SELF IMPROVEMENT, CIVILIZATION, HOME, COUNTRY, COMMERCE, RIGHTS, DUTIES, ETHICS, ETC.

GOD,

HIS

EXISTENCE, ATTRIBUTES, LAWS, WORSHIP, NATURAL THEOLOGY, ETC.:

IMMORTALITY,

ITS

EVIDENCES, CONDITIONS, RELATIONS TO TIME, REWARDS, PUNISHMENTS, SIN, FAITH, PRAYER, ETC.:

INTELLECT,

MEMORY, JUVENILE AND SELF EDUCATION, LITERATURE, MENTAL DISCIPLINE, THE SENSES, SCIENCES, ARTS, AVOCATIONS, A PERFECT LIFE, ETC., ETC., ETC.

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AUTHOR OF "FOWLER ON PHRENOLOGY;" "FOWLER ON PHYSIOLOGY;" "SELF-CULTURE;" "MEMORY;"

"RELIGION;" "MATRIMONY;" "HEREDITARY DESCENT;" "LOVE AND PARENTAGE;"

"MATERNITY;" "THE SELF-INSTRUCTOR," ETC., ETC.

WHAT IS LIFE?

To be Young when Old, be Old while Young.

Issued by subscription only, and not for sale in the book stores. Residents of any State desiring a copy should address the Publishers, and an Agent will call upon them. See page 1213.

NATIONAL PUBLISHING COMPANY,

PHILADELPHIA, PA.; CHICAGO, ILL.; CINCINNATI, OHIO; ST. LOUIS, MO.

A. L. BANCROFT & CO., SAN FRANCISCO, CAL.

1873

BF870
F68

Entered according to Act of Congress, in the year 1873, by

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In the Office of the Librarian of Congress, at Washington, D. C.

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PREFACE.

“MAN, KNOW THYSELF,” is the motto for the race! ANTHROPOLOGY is universal *Philosophy* and natural *Theology*; and as far surpasses all other studies as its subject-matter, man, eclipses all else terrestrial. In practical value and inherent interest it has no equal.

MENTAL PHILOSOPHY has justly engrossed the master minds of the entire race, because all human interests converge in this their focal centre; so that its study as far transcends all others as *mind*—that alone which enjoys, suffers, lives forever, constitutes life, is the summary of Man and Nature, and Jehovah’s crowning work—does beast and thing. MENTALITY is the ultimate end and goal of man, and of all things terrestrial; so that mental science constitutes the embodied summary of all science. To study it, is to study all things, besides being our only way to learn how to live aright. It is the philosopher’s crucial test of all doctrines, all practices, ethical, moral, religious, social, educational, commercial, and governmental, and the summary of universal humanity in all conditions, climes, and centuries.

THE SCIENTIFIC ANALYSIS of everything reveals its nature, uses, ways, means, ends, laws, functions, right and wrong action, and whatever appertains thereto; thereby becoming of *paramount* practical importance in its investigation. Pre-eminently is this true of the analysis of the human *mind*, from which all laws, customs, governments, literature, song, desires, feelings, religions, thoughts, and whatever any and all human beings do and are, flow forth.

EVERY PREVIOUS system of mental philosophy has signally failed in this analysis. Each successive metaphysician shows how imperfect is that of all his predecessors, and his successors how faulty is his own : nor can intelligent readers obtain any definite idea of the mind from the perusal of them all, because none correctly expound its component *Faculties*.

PHRENOLOGY, however, certainly does furnish a definite and a perfect analysis of both the mind as a whole, and of each of its component parts in detail ; indeed, is the *natural science* of the mind, and whatever appertains thereto, and therefore constitutes man's true mental text-book and teacher. It alone enables us to identify, analyze, and ramify each of the constituent Faculties of this mind, together with all their outworkings, by demonstration, by sight and touch, by ad-measurement — that absolute test of truth. As a *system* of mental philosophy, it alone is at all worthy of that exalted name. Its discovery was by far the greatest, the most profound and useful, ever made ; casting those of the railroad and steam engine, telegraph and circulation of the blood, and even the Copernican system of astronomy, completely into the shade ; because it unfolds creation's sublimest department, THE MIND, in which existence alone inheres ; thereby seizing this problem of life at its very *centre*, and ramifying it throughout all its elements, and their outworkings !

A RIGHT LIFE, incomparably the most exalted attainment and achievement possible to men and angels, is taught by this analysis. *Just how to live* is the master problem, as yet unsolved, of all individuals, all communities, throughout all climes and ages ; so that its *scientific* solution and application to all the relations of life, immeasurably exceeds all other studies and acquisitions, because it embraces all knowledge, all virtue, all enjoyment. *What is right*, and what wrong ? what we should do here, and not do there ? and how to guide our steps aright throughout all the every-day affairs of life ?

are perpetually-recurring questions, demanding specific answers in action every hour of life. All subjects whatever have their right side, and their wrong; and an infallible tribunal as to what *is* right, and what wrong, is infinitely important; because all virtue and enjoyment on the one hand, and all vice and misery on the other, emanate therefrom. How to derive from our life-powers all possible enjoyments, and avoid all possible sufferings, is the highest aspiration of self-love, and the very first instinct of all that lives; and should constitute the one great *personal* inquiry of every intelligent being, all through life. Hence that scientific exposition of the natural laws and facts of human existence taught by mental science, and their application to the happiness and virtue of individuals and communities, here proposed, *ranks all other subjects* in practical importance.

THIS VOLUME EXPOUNDS this science of the mind, analyzes each of its Faculties, gives their right and wrong, and thereby virtuous and vicious modes of action, and applies its teachings to all the great and little problems and interests of humanity. Phrenology, by analyzing these mental *fountains* of all things human, reveals *all* those streams which do and should flow therefrom; besides also disclosing THE MODEL MAN, and thereby showing all persons, all communities, just wherein, and how far, they conform to and depart from this perfect type; that is, wherein each lives a life perfect or imperfect. A science which achieves *all this*, must soon become THE GREAT STUDY of the whole race, and so remain "till time shall be no longer."

A STANDARD WORK, therefore, on this science of the mind, which unfolds its principles, classifies its facts, gives its history, and recent discoveries and improvements, embodies the gist of its previous writings, and is a repository of whatever is known concerning it, thus becomes a great, an unequalled public benefaction!

SUCH a work is here proffered. GALL discovered the great *fact* that each mental capacity manifests itself through its

cerebral organ, the size of which indicates its power of function, along with the location of most of the organs, yet did little by way of developing its *science* as such; and Spurzheim, a close observer and deep thinker, added to Gall's discoveries, and made valuable applications of them to "Education," "Insanity," &c.; while George Combe, a truly great man, and one of the profoundest reasoners of his own age, or any other, superadded to those of both, besides applying them to "Jurisprudence," "Moral Philosophy," "Gradual Development," * &c.; to all of which the Author has contributed his mite, in his works on "Phrenology," "Matrimony," "Self-Culture," "Memory," &c. Yet these, and all its other applications, have been only fragmentary; whereas the best interests of mankind demand a *comprehensive* exposition of this science itself, along with its applications and teachings to *all departments* of humanity. Furthermore, —

A UNITARIAN aspect of man alone deserves much study. All fragments are nearly useless. *Completeness* is an ordinance of Nature, and should be of all her investigations. All isolated views of man's individual parts, as of his anatomy, physiology, mental philosophy, government, morals, religion, education, &c., presented independently of co-working parts, are of little practical account; because all parts are interwoven and co-operate *with* all in manifesting life.

A COMPLETE work on *all the departments* of both man's mind and body is here furnished. This is the first attempt ever made to embody *all* branches of Anthropology into one collective *whole*. It, with "Sexual Science," embraces *all* the works, reflections, recollections, observations, writings, &c., of its Author, revised, enlarged, systematized, condensed, and embodied into one comprehensive work, presenting the results of almost *half a century* of his professional consultations with *four generations*, and all nations, specifically calculated to

* He wrote "The Vestiges of Creation," of which the "Darwinian Theory" is only the amplification. Ask Lucretia Mott, who knows *personally*.

impart a perfect knowledge of the facts, teachings, and principles of Anthropology.

EYE-TEACHING ENGRAVINGS amply illustrate all its points, and so simplify and popularize this study as to bring it within the comprehension of all ; thereby promoting its utility and dissemination, and enabling amateurs to begin and prosecute its study *without further aid* ; and yet connoisseurs will here find its more elaborate philosophies, together with a *resume* of all its former writings. No labor, no expense, have been spared to render it a *standard* work on Phrenology, presenting in one complete volume all the excellences of all its predecessors, and applying all to self-culture and a perfect human life — ends how infinitely exalted ! It naturally subdivides itself into six parts, as follows : —

PART I. THE ORGANISM discusses man's organic relations generally, including the fundamental principles of life ; the structure of the mind ; the principles, proofs, facts, and history of Phrenology ; the Temperaments, &c. ; and applies all to SELF-IMPROVEMENT.

PART II. HEALTH, its Value, Laws, Organs, Functions, Means, Preservation, and Restoration, shows all how to *get and keep* themselves and families well, *without doctors or medicines* ; and analyzes and illustrates all the physical functions.

PART III. THE ANIMAL PROPENSITIES AND SELFISH SENTIMENTS, analyzes those self-caring instincts which supply personal wants, look out well for self, and create man's affectional, governmental, aspiring, and other sentiments, which it describes in FIVE DEGREES of power — Large, Full, Average, Moderate, and Small, along with the different effects on character and conduct of their *combinations* with the other Faculties in *their* different degrees of power. This feature, which appertains to this entire work, yet is found *nowhere else*, is especially interesting and instructive, as causing and disclosing the endless shadings and diversities of human character and conduct.

PART IV. MAN'S MORAL NATURE, analyzes those MORAL FACULTIES which both render him a religious being,

place him in relation with all the theological, ethical, and spiritual *truths of the whole universe*, and unfold all their relations and dependencies, including all those *ranges* of religious doctrines and practices they involve; thereby developing an entirely new *system* of Natural Theology, solving all moral problems with *scientific* authority, and furnishing an exhaustless storehouse of religious truth. Religion is just as much an *exact natural science* as mathematics, because both are equally governed by those *natural laws* which render all they regulate "exact;" and Part III. *demonstrates religious science*. Does not *such* an exposition of such a subject, from the standpoint of the *moral constitution of man*, merit attention from all Christians, infidels, and *savans*?

PART V. INTELLECT, MEMORY, AND REASON, analyzes and shows how to cultivate all the intellectual Faculties, which it describes in five degrees of power, and shows how to prosecute intellectual and juvenile education, and develop scholarship and memory, eloquence and reason — man's highest gifts!

PART VI. A RIGHT LIFE, individual and communitarian, *applies* these principles and teachings to progress and reform, private and public, by showing *wherein* this, that, and the other custom and institution harmonize and conflict with human Nature, and *from* what to what they require to be changed, added to, and amended.

ITS NEW THEORIES merit careful thought and inquiry. It propounds a new theory of organic formation, which shows *why* and *how* this vegetable and animal takes on this form and structure, and that animal that form; why kangaroos grow larger behind than before, but lions largest before; why and how each bone, muscle, and part is fashioned just as it is; why all are alike in their *great* outline, yet differ in detail; that is, it gives the true *theory of all organic formation*.

ITS NEW VIEWS OF PAIN AND PUNISHMENT deserve special attention. Its view of pain as a *remedial* process deserves investigation from medical men, and all who suffer from pain;

whilst its ideas that the punishments attached to all legal infractions are directly calculated both to prevent the sinner and sufferer from sinning and therefore suffering still farther, and also as a *restorative* process, a *mental hygiene*, a balm, a salve, a "healing medium," a direct agent in producing virtue and goodness, is a nut for theologians to crack, and, for some, a *file to gnaw*.

A NEW MOTIVE POWER, which propels and regulates the blood, the motions of the heavenly bodies, tides, &c., is also here propounded and proved, substituting *electricity* in place of Newton's centripetal and centrifugal forces.

ITS NEW BUILDING materials and plans deserve notice, as do several of its other original ideas on a great variety of other subjects.

ITS OCTAL ARITHMETICAL system is both obviously the true natural one, and incalculably better than the present bungling decimal, especially as regards fractions and multiplication.

ITS VAST RANGE of subjects and its great number of truths of the utmost practical import, capable of being taken *right home* to the inner life itself, and incorporated into the daily habits of all, which leap right out upon every page, yet are taught *nowhere else*, entitle it to the profound appreciation of all Phrenologists, philosophers, philanthropists, parents, and all others who desire to improve themselves or fellow-men.

PAIN often precedes and causes pleasure. Probing and dressing wounds sometimes cause temporary agony, only to alleviate future sufferings, and promote ultimate enjoyment. This work will often probe and excoriate the faults of individuals and communities, never to torment those reproved, but only to obviate the faults exposed, together with the miseries they cause, and substitute those human virtues and excellences which create pleasure.

OBJECTORS to Phrenology are generally treated with that "dignified silence" justly due to their ignorance and mis-

representations; because proving its *truth*, which we absolutely demonstrate, effectually refutes them all, besides bringing them face to face with their MAKER, where we leave them to settle their cavils; as well as to that lasting disgrace which must soon follow their short-lived triumph. Would Galileo, would the discoverers or expounders of any great truth, advance it by wasting on its bigoted opponents those precious energies required for its promulgation?

PSEUDO-discoveries antagonistic to those of Gall, are ignored, because his are substantially correct. The Author has practised on other theories enough to know that they are unreliable; whereas, a minute inspection of the phrenological "developments" of a *quarter of a million*, of all ages and of both sexes, warrants this most positive declaration, derived from all his experimental observations, that Gall's locations and descriptions are substantially correct; so that all in conflict with his are wrong.

THE SUBJECT-MATTER of this volume was announced for three volumes — Phrenology, Religion, and Intellect; but their preparation required so many *references* from each to all, that each has been greatly improved by amalgamating all three together. This deserves the more appreciation, because all previous phrenological writings have been fragmentary. Gall, Spurzheim, and Combe each made five or six volumes out of matter which could and should have been embraced in one work, with manifest improvement to all; and the Author marred his own earlier productions by a like division, which he now corrects by embodying six of them — "Phrenology," "Physiology," "Self-Culture," "Religion," "Memory," and "Home for All" — into this work, and his other five — "Matrimony," "Hereditary Descent," "Love and Parentage," "Maternity," and "Amativeness" — into "Sexual Science."

TO OUR INFINITE THEME, of course, no finite mind can do full justice. One might well feel abashed in making such an attempt, — in entering where angels should hardly dare to

tread ; but *some* one must at least *try* ; for the entire race, in its every individual, if not making a complete wreck of this most precious entity existence, is falling almost infinitely below its inherent enjoyments and attainments, just for want of that COLLECTIVE knowledge of its elements, laws, and right management here propounded.

A SUBJECT THUS VAST and momentous deserves a *presentation* more labored ; yet successors — of predecessors there are none — may supply omissions, and make needed improvements. *Philosophical* authorship — that highest kind, because its mission is to *mould public opinion*, not to beguile a passing hour — should select the precise words required, yet not be florid. Striving mainly to render this work thoroughly *scientific*, a transcript from Nature, and an epitome of her human laws and facts, the Author has treated each subject concisely, and adopted a style mainly Saxon ; more perspicuous than ornamental, laconic than diffuse, and direct than figurative ; aiming mainly to convey the most thought possible in the fewest words, and laboring chiefly on its *subject-matter*, for which thank Phrenology. To make his ideas easily understood, and then to *brand them right into* the innermost consciousness of every reader, *hic labor, hoc opus est*. Every single page and paragraph was written to *do good*, and render every observant reader ever afterwards the better and happier, more successful, talented, and virtuous. *Philanthropy*, not personality, *human weal*, not paltry pelf or sordid ambition, dictated and inspired them all.

THE SCIENCE of Phrenology and of humanity is here presented.

GOD SPEED it on its mission of benefiting His creatures, by teaching them how to obtain the uttermost *enjoyment* possible out of life and its powers. May it enable and inspire many fellow-mortals to so study and obey the laws of that one life entity conferred upon them as to redouble, many fold, all the powers and pleasures of their entire beings, throughout the infinite cycle of their terrestrial and celestial existence !

EXPLANATION.

THE AUTHOR REFERS readers from all parts of each volume to any part of both volumes, without repetition, by giving each specific subject, topic, principle, thought, and idea presented a *numbered heading*, to which he refers by those raised figures called *superiors*, found throughout both. Thus the idea that "the phrenological faculties analyze all Nature, and her Author," is numbered 4, and referred to by placing 4 thus: 4. Though each volume, section, and topic is complete in itself, and can be fully understood without making these references, yet each will be re-enforced by making them; which can be done easily by keeping the left hand on the "Contents."

THE FIRST WORDS, in small caps, of its paragraphs, will generally give the staminate idea of each, thus enabling those in haste to "run while they read," or "thumb" its main points and their mutual bearings, and also facilitating its review.

INTRODUCTION.

AN INALIENABLE RIGHT of every reader, on first opening any book, is to know its *subject matter*, and proposed manner of treating it; the proper place for stating which is in its *Introduction*; in which the Author of this work states its "points," less to blow its and his own trumpet than that its readers may *start out* with a succinct summary of its specialties.

1. — LIFE MUST BE INVESTIGATED AS ONE GREAT WHOLE.

LIFE CONSISTS in a great *variety* of Faculties, functions, and organs, all interwoven together, and each, as in a complicated machine, dependent upon all the others, therefore studying its *individual* departments, — anatomy, physiology, mentality, &c., — furnishes but partial and sometimes erroneous views of it *as a whole*. To obtain anything like a complete knowledge of man, it becomes indispensable that his constitution be studied in its COLLECTIVE capacity. He must be known, not by sections, but as a UNIT; for in no other way can the reciprocal bearings and complex inter-relations of the multifarious laws of his being be understood. How useless, how imperfect is a knowledge of anatomy, unless accompanied by that of both the physiology and the mentality! And the latter two without the former! And of either without both the others! As in the body the lungs cannot be understood without studying the muscles, nor either independently of the brain, heart, viscera, &c.; so all the mental powers must be investigated, as they are ordained to act *in concert* with all the others. Thus how could reason be investigated independently of those functions it was created to guide and govern? or *any* Faculty by itself alone? The very attempt is preposterous, and must prove futile.

HERETOFORE man has been studied only by piecemeal. The anatomist has studied him structurally merely; the physiologist functionally simply; the metaphysician only psychologically; the theologian solely ethically. This existing sectional mode of studying man deserves severe rebuke; while that UNITARIAN method proposed in this volume merits public attention. All past and present fractional attempts to expound and improve humanity have signally failed, because devoted one to one and others to other *sets* of bodily organs or functions, or one to one and another to some other doctrinal aspect of theology, or politics, or marriage, or education, or diet, &c. It is as if a fly, in one obscure part of this great temple of life, were discussing its narrow corner of some one room among all of the thousands of the apartments which comprise this magnificent structure of humanity, yet none even attempting to present its outline as one great *totality*.

MIND CAN BE STUDIED ONLY THROUGH ITS ORGANS. — Man is compounded of both mind and body, each acting only in and by means of the other. Beyond all question, ORGANISM is Nature's sole medium for both exercising the mind, and manifesting that action;²⁶ and its organic relations constitute the controlling conditions of its action, as well as the only means of all life.

Mind and body should, therefore, be studied *together*, and in view of their *mutual* inter-relations. If they acted independently, they might be studied separately; but Nature, by establishing perfect co-operation between them, compels their *conjoint* investigation. Hence, the mind can be studied scientifically and practically only from the stand-point of its organism, as subservient to mentality, and as manifesting and modifying its action.

THIS EMBODIED aspect of human life throughout all its multifarious aspects and inter-relations, is the august object here attempted. How sublime a conception! and how infinitely desirable to every human being its execution!

2. — NEW AND TRUE HEALTH PRESCRIPTIONS AND PRACTICES.

THE PHYSICAL MAN is the natural starting-point of this undertaking. The *exposition* of life should obviously begin where life itself begins with its material organs; with the sci-

ence of *physical* life. Though the body, with its physical organs and functions, is not the man, as will yet be shown,¹⁸ it is, nevertheless, the only medium for the terrestrial *manifestation* of life, and thereby becomes its neglected "chief cornerstone." We shall soon see how important this *base* of life and all its functions is.

HEALTH is man's highest good ; disease, his greatest curse ! In sickness, what can we accomplish or enjoy ? Yet what palsy and agony do we suffer ! Those who pray, work, study, or desire at all, should pray and study to *preserve health* — that *first* prerequisite of all workmen, money-makers, scholars, Christians, philanthropists, even voluptuaries, and all in all conditions.

ALL SCIENTIFIC expositions of life must needs begin, where this work begins, with the "ways and means," of obtaining and maintaining perfect health, including man's organic relations generally ; because physical vigor is to all his powers and functions what motive power is to machinery, its *sine qua non* ; so that impairing or improving it promotes or impedes every single end and pleasure of life.

SCIENCE, and therefore certainty, govern health equally with all other natural results ; so that all who fulfil its laws will enjoy it in proportion, and are thereby *guaranteed* perfect health down to a green old age ; while breaking them impairs it. This work unfolds these health laws ; hence those who follow its directions will retain what constitutional vigor they possess, and perpetually augment it. *Keeping* well, that great art of life, is here expounded, and applied to preserving the lives and constitutions of children.

EVEN HEREDITARY DISEASES can be cured, or kept at bay ; and this work shows how to do both. There is no need of being sick ; it is even a positive disgrace, to say nothing of its self-denials, expense, pain, &c., and this work teaches all how to avoid it.

RESTORING INVALIDS is still more important, but difficult ; yet possible wherever the organism has not been fundamentally impaired ; for Nature's recuperative powers are indeed most marvellous.⁷⁰

SELF, those who are to live or die, are chiefly concerned, and should mainly direct. *Home* treatment of disease is the true treatment. All should become their *own* doctors early in

life, and learn right sick-bed management beforehand ; while every mother should become her own *family physician*, and health preserver and restorer, whose chief skill centres in *keeping* herself and darlings well ; on the principle that "an ounce of prevention is worth pounds of cure." Yet, when this has been neglected, and "treatment" becomes necessary, it should begin with the first *symptoms* of disease, before the patient "takes to bed," and long before a doctor is thought at all necessary ; and one of the chief objects of this work is to show all, in all conditions, how to *keep* themselves and families well, and then how to *cure sickness*.

MEDICINES, however, do not constitute its chief restorative. Nature is the great physician, the best "healing medium." Give her every facility, and she will restore those who are restorable. Medicines may sometimes help her expel disease, supply antidotes, alteratives, or some required material to effect chemical changes, &c., but she alone gives them the required efficacy ; and most of the cures attributed to them are in reality effected by her in *spite* of them. And her cures *fortify* instead of undermining the constitution. All take too much "doctor's stuff," while many are literally *medicine crazy*. After outraging every health law till Nature brings them to account by sickness, they pour down medicines literally by the gallon ; often making an apothecary shop of their stomachs, and sometimes almost turning an apothecary's shop into their stomachs ; whereas a little timely precaution would have kept them well. Many over-anxious mothers summon "the doctor" for every trifling ache and ailment, often imaginary ; or, fearful lest they or theirs *might be* sick, swallow, almost *eat* his nauseating and often poisonous doses ; frequently ruining their own and children's naturally excellent constitutions by calomel, quinine, morphine, arsenic, opiates, vermifuges, "soothing syrups," and all that. How many invalids keep on growing worse the more they doctor, till, from sheer despair or poverty, they finally stop taking medicines, and wait to die ; when to their astonishment they recover, slowly, but surely, and live on many years. Americans spend annually *seven hundred million* dollars on doctors, and about as much more for medicines and nurses, only to break down millions of constitutions, besides causing millions of premature deaths, whereas most of both this money and

these lives might be saved by a right hygienic *home* self-treatment, which this work points out. It shows invalids how to restore themselves less by "doctoring" than by right *health habits*. All works on health omit the true principles and chief means of both preserving and regaining it, which this work points out. Following its directions will banish sickness, medicines, and doctors from all families — "special occasions" excepted, which it will "multiply" — and benefit females immeasurably more than "the ballot." Its prescriptions will often have a beneficial effect almost magical. Mr. Espy, of Espyville, Pa., said before a phrenological audience, —

"MY FATHER, mother, two grandparents, and every one of my brothers, sisters, uncles, aunts, and cousins, died of consumption, and I was struck with it, and given up to die by several physicians, who said nothing could save me; but in 1860 I read and followed O. S. Fowler's prescriptions to consumptives in his *Physiology*; began gradually to recover, was able in 1861 to 'enlist,' served three years in the army and fought in many battles, studied law, was admitted to practice, elected to the Pennsylvania senate, and have been perfectly well for six years — all due wholly to my following the prescriptions embodied in that work."

A PHRENOLOGICAL FACULTY superintends and executes every physical function. Phrenology renders it demonstrably certain that Alimentation, including selecting, eating, digesting, and appropriating our food, is all carried forward by the phrenological Faculty and organ of Appetite. Now dyspepsia, a digestive derangement, is consequent on wrong eating, or a violation of the laws of Appetite, and, of course, should be discussed under the general head of Appetite. It can be treated scientifically nowhere else. To present it fully by itself is not possible,¹ for it comes in with the alimentary process. We have heretofore handled it by itself, but with self-dissatisfaction, because it belongs under Appetite.

IN THIS WORK we group this whole alimentary department under its natural head, Appetite. Let analytical readers see how marked the advantages of treating it *under* this head of its mental *Faculty*.

THE FACULTY OF LOVE originates whatever appertains to males and females as such; in fact *creates* their male and female nature, feelings, and anatomy. Of course, whatever concerns the sexes as such, including love, selection, marriage, and reproduction, should, of right, be grouped around this mental Faculty,¹ and we so treat it; except that this sub-

ject is so vast and ramified that embodying it in with this volume would make it too large ; and as this is, as it were, an appendix to humanity, a postscript having its cerebral organ in the little brain, separated from the brain proper by the tentorium, just as the sexual organism of both sexes is in the male literally an anatomical appendix, in the female an *interpolation*, we have appropriately thrown its treatment into a virtual appendix to this volume, which is entitled "Sexual Science."

EACH OF THE OTHER BODILY ORGANS, equally with the digestive and sexual, of course, has its mental Faculty, and therefore cerebral organ. Would Nature create a Faculty for executing these two bodily functions, and not also all the others ! She does nothing by patchwork. Her creating mental Faculties for the digestive and reproductive apparatus, proves that she has also created a mental Faculty for the heart, the lungs, the muscles, diaphragm, liver, bowels, kidneys, and all of her other physical functions. Indeed, the liver has its cerebral organ already discovered, and located just in front of Appetite ; while the muscles have theirs in the cerebellum, and between the two lobes of Amativeness. This base of the brain, yet to be analyzed, was not furnished with all its nerves for nought.³⁷ Each nerve has its cerebral *organ* in that *neurine* in which it originates, where its Faculty resides and presides. Each of the other senses has its cerebral organ where its Faculty lives and rules. This appropriation of organs and Faculties to functions is a *law*, not an accident ; *universal*, not partial ; and governs every physical function whatsoever, all the excretions included. And there must also be one for animal heat, sleep, &c.

THE BASE of the brain, where those discovered are located, is the proper place for the location also of those yet undiscovered, as we shall in due time see ;⁷⁵ and we commend searching for them to those Phrenologists anxious to distinguish themselves in this exploration ; for a good deal of *terra incognita* yet remains in this base of the brain, and along its entire falciform process. But the special point we now urge is that :—

SINCE DIGESTION, and of course indigestion, should obviously be discussed under Appetite, and can be thoroughly and scientifically presented nowhere else, and never by itself

apart from its Faculty ; therefore, each of the *other* physical functions, having also its own mental Faculty and cerebral organ, should also be discussed *among the mental Faculties*, not isolated in a separate treatise on Physiology.

THIS INTERMINGLING the physical with the mental functions may seem incongruous at first sight, especially to those old medical professor “stagers ;” but NATURE thus intercommingles them, and we are content to be a “radical” in following her august commands. The body was *made for* the mind : then why not consider the two *together*, not apart ? We too, followed this physiological divorcing “crowd” till this law taught us “a better way,” into which we boldly “strike right out” alone ; by interspersing Physiology *with* Phrenology, just as Nature has interspersed them ; and treating such physical function under the head of its mental Faculty — dyspepsia under the head of Appetite, consumption, asthma, &c., under that of the Faculty of respiration, &c. ; leaving the superior *efficacy* of this course to be its own justification.

THIS PRINCIPLE greatly enforces our next point. As some merchants have their *leading* article on which they “run,” and pride themselves on selling it at or below cost, so as thereby to bait other customers ; so the physiological department of this book has its specialty, its *heroic* cure-all, its panacea. It makes : —

CURING THE BODY THROUGH THE MIND its specialty. The power wielded by mind over body is all-potential. The mentality is the imperious lord, even tyrant, over the physiology.³⁸ Most bodily ailments *originate* in the mind, and are perpetuated by it ; and curable only by mental restoratives. “A wounded spirit” slowly but surely withers constitutions *by millions* ! Any and all medicines always aggravate such ailments. Those “sick *at heart*” can be cured only by mental tonics appropriate to each case. The states of the mind especially control the stomach. Dyspepsia generally originates in a dejected state of *feeling*, or in some *heart* trouble, or an overworked, and therefore fevered nervous system, or in business worriments, &c.¹¹⁶ Broken hearts break constitutions in untold numbers ; for whom only a Phrenologist can prescribe appropriate cures : *but he can*, as is here shown.

THE INTELLECT AND MORALS also depend largely on physical

states. Increasing health improves the talents, memory, and morals. Dyspepsia and irritability are twins; as are also drunkenness and depravity; ⁶³ and a large proportion of the vices of mankind have a purely physical origin, and therefore cure. Yet most physiologists and moralists ignore this cardinal truth, and stop just where they should begin to apply health improvements to purifying the feelings, exalting the morals, enhancing the virtues, and developing the memory, reason, talents, &c.

THE AUTHOR had not prosecuted those phrenological investigations which constitute his *passion* as well as profession long, before perceiving that the *physical* conditions modify and even control human conduct and the entire character quite as effectually as the phrenological. This led him to trace out the *laws* which govern these mutual interrelations, and this volume presents the *results* of his investigations in this almost wholly unexplored field of research. "Knowledge is power," but no other knowledge gives equal power to *enhance our moral virtues and intellectual capabilities*, as well as to avoid temptations to sin. No charioteer can manage his well-trained steed as easily or effectually as a full knowledge of these physico-mental relations will enable us to control, augment, restrain, and direct our states of mind and feeling. By its application we can enhance cerebral efficiency, and therefore mental power, many hundred per cent.; or proportionably augment the action of particular cerebral organs, and therefore of any required talent or virtue. Yet who understands this subject? What writers, even on Physiology, to whom it rightly belongs, even attempt its elucidation? All overlook or ignore the influences wielded by the bodily conditions over the mental, and the mental over the physical. They write and lecture as if no such natural laws existed. The mind has indeed been elaborately discussed *per se*, as if it were some vague, detached, ethereal entity, but, excepting by Phrenologists, it has never been treated as if it were affected by any organic conditions whatever; while physicians have constantly studied bodily ailments as if unaffected by mental states. Does Carpenter, do other physiological authors or lecturers, tell us WHAT bodily conditions induce given mental? or how to produce desirable intellectual or moral states by superinducing their

corresponding organic conditions? And yet to unfold and enforce this subject should be the main object of ALL physiological works; because this embodies their great utility. A knowledge of this reciprocal action is about the only practical advantage to be derived from this class of studies. Thus diet, breathing, exercise, the Temperaments, health, disease, and all the other physical conditions, are far less important in *themselves*, than in their effects on our *virtues, vices, talents, and morals*. Its comparative neglect thus far is amazing! Every human and life motive points to it as the one great practical question of life. Other kinds of learning, compared with this kind, are almost useless. Astronomers spend much time and intellect in scanning the transit of Venus; yet as a practical lesson for improving life and its ends, it bears no more comparison to this than a drop of rain to a shower. Anabaptists and Pedobaptists spend much time, breath, and labor in convincing mankind that baptism by immersion is better than by sprinkling, or the converse; yet what mental states produce what physical, has a million times more to do with human sickness and health, virtues and vices, talents and capacities, enjoyments and sufferings, and all there is of existence, than either or both.

MIND AND BODY can *never* be scientifically treated separately, as attempted in all other works on either, but only *together*, as here.

THIS FATAL OMISSION of all other works Phrenology alone supplies, and this book alone presents. To the exposition and application of a principle thus vast in its range and vital in its character, this volume is dedicated. The momentous questions, *What* physical conditions induce given mental manifestations? into *what* states shall we throw the body in order thereby to promote particular moral emotions and tendencies, or enhance special intellectual powers and manifestations? it answers, and thereby puts readers in possession of the keys of personal happiness, and the great lever for moving the mind. God grant to the Author a full conception and faithful delineation of these momentous practical truths unfolded by this principle, and to his readers the power to understand, and will to apply them.

THE HEALTH EXPERIENCES of the Author seem to him worthy a place in this volume, especially since they have been

varied and peculiar, and their lessons carefully studied. "All he knows" about health from *forty years* of experience and professional observation, he here tells, not in Greek, but in plain, understandable English; not from egotism, but partly as a guide, yet somewhat as a warning, to others. Some of the vito-chemical discoveries of the great Liebig, the father of animal chemistry, are here made to supply an important health desideratum.

SUFFICIENT ANATOMY is introduced to furnish a good idea of our wonderfully ingenious and efficient bodily structure, and enforce the practical health lessons here taught. It begins, where life itself begins, with the *manufacture* of vital force, which it follows along out into its various expenditures. Its health prescriptions alone render it well worth a hundred fold its entire cost.

3. — THE NATURAL PHILOSOPHY OF EACH MENTAL FACULTY IS ALONE GIVEN HERE.

THE MENTAL FACULTIES originate all functions, desires, emotions, actions, instincts, passions, &c.,³⁴ along with most diseases; create all human institutions and histories, as well as all individual characteristics; and constitute the very quintessence of being itself, and whatever appertains to universal life, animal and human, now and forever!

EACH Faculty originates a specific class of functions and fulfils an end *indispensable* to existence, and is a *sine qua non* of life. *Pointing out* this great end attained by each Faculty, including the human necessity it supplies, furnishes by far the most complete idea possible of its manifestations. This work, unlike any other, states these *adaptations* of each Faculty, its object and natural history, or the part it plays in the living economies. For example:—

MEN MUST CONFORM to some common standards of dress, writing, speech, manners, everything; else how could any ever talk, write, or do anything so as to be understood by any others; for in what does learning to talk or write consist but in *imitating* those sounds and characters by means of which others understand and express like ideas and feelings? In short, conformity to one another, and to established standards, is a human necessity, which the Faculty of Imitation executes; so that stating this rationale of this Faculty, and

the human want it supplies, furnishes the best possible exposition of its exact function ; which no description can equal.

SOME GREAT INSTITUTE OF NATURE is also expressed and embodied in each Faculty. Thus man, beast, fish, fowl, insect, worm, tree, vegetable, *all that lives*, must feed, or die. In other words Nature has her *feeding department*, over which the primal Faculty of Appetite presides, governing whatever appertains to nutrition. Here is a functional institute which must needs have its president ; that which imperiously compels all to eat ; selects the kind, quality, amount, &c., of the aliment adapted to each ; tells each when to eat, and when not ; how and how much ; and prompts and rules whatever appertains to the alimentation of all that grows. Behold this great feeding arrangement of Nature, and then behold in Appetite its Congress and President, its Supreme Court and Chief Justice, its Law-giver and Law-executor ! Now Phrenology, in analyzing Appetite, expounds whatever concerns the nutrition of all that lives.

POINTING OUT this adaptation and the end attained by Appetite, furnishes the most complete description of the function of this Faculty possible to be conveyed ; besides also incidentally embracing the various kinds of stomachs for digesting the different kinds of food ; the different qualities, and relative excellences of this edible and that, medicines, poisons, &c., included.

SIGHT, another of these mental Faculties, creates and governs whatever appertains to seeing, and thereby puts man in relation with the eyes and their adaptation to seeing, with light, its laws and facts, and all optical principles and experiments, and whatever appertains to vision. Similar remarks apply equally to Sensation, Taste, Audition, and Smell.

PARENTAL LOVE is adapted, and adapts man, to that *infantile state*, through which *all forms* of terrestrial, and thereby celestial beings are ushered upon the plane of endless existence ! Of course its complete exposition teaches whatever appertains to parents and children as such ; thus covering the whole ground of infantile and juvenile management, rearing, and education from birth to maturity, in fact, *as long as they exist* !

POINTING OUT this office of Parental Love, and the means by which it executes its office, therefore sets its function, and

whatever appertains to it before the mind, in the clearest and fullest light possible.

LOVE, likewise, in being adapted to this "male and female" ordinance of Nature, unfolds all man's sexual laws and relations; teaches all the mutual duties, feelings, and manners due between boys and girls, men and women, young folks and lovers, the married and single, fathers and daughters, mothers and sons, husbands and wives, and all males and females as such towards each other; of course involving and evolving that whole subject of reproduction for which this entire sexual department of Nature, including all the family relations, was created. In short, Nature has her sexual or reproductive department, over which she has installed the primal element of LOVE as its supreme executive.

THIS ADAPTATION AND OFFICE of Love completely reveals whatever appertains to this whole sexual, affectional, family, and reproductive department of Nature. What description of it could give an idea of it equally full or clear?

CAUSES AND EFFECTS constitute another institute of Nature,¹⁹ with which man must somehow be put into relation; else how could he ever perceive causes, or apply them so as to produce desired results, or know or do any one thing involving either causes and effects, or ways and means. Yet without this gift how could he, or any thing else, exist! And how infinitely useful such relation; that is, Causality! And how vast its range! Whatever appertains to all reasonings, of all kinds, on all subjects; to the perception and application of all truth; to learning by *experience*, that great truth teacher of the universe; to the adaptation of all ways and means to ends, all inventions, tool and machine-making and using, as well as the things made; including all philosophy and all thought and forethought; originate in this primal element. Think of its sweep and power, its utility and necessity! Now Phrenology, in its analysis of this primal Faculty, unfolds whatever appertains to it. Is this *element* of any account! Then is not its exposition of equal?

NOW MERELY STATING this adaptation of this Faculty describes it, and gives a more perfect idea of its functions and effects on character than the most elaborate description could possibly furnish.

THESE ADAPTATIONS AND USES of each and all the mental

Faculties, here given, convey at first sight, a clear, intelligible, and actually perfect description of the nature, outworkings, and effects on character of each; thus relieving the student from wading through pages of description in order to obtain a confused idea of this same function. This adaptation is both fully understood, and easily remembered; and the entire workings of each Faculty are thereby completely comprehended, and always retained.

THESE SAMPLES illustrate a *feature of this work*, found in no previous writings, phrenological included. Will the reader try to grasp this idea in the start, and note its evolution throughout this work. But this is by no means all.

4. — THE PHRENOLOGICAL FACULTIES ANALYZE ALL NATURE, AND LIKEWISE HER AUTHOR!

NATURAL PHILOSOPHY claims to point out all the primal *elements* of matter. Configuration is one of them. Mark how perfectly the Phrenological analysis of Form puts man into relationship with this natural institute, and teaches him all about it: and thus of “magnitude” (Size), “ponderosity” (Weight), and every one of its other elements. Yet:—

ITS EXPONENTS OMIT by far the largest number of these primal elements of matter. Thus, is not PLACE as inherent an element of all things as is configuration? Can anything be without being somewhere? And in its *own* place at that? Thus sun, moon, and stars are each and all in their own individual places. So is even every stone, whether on the earth's surface or in its bowels, not in mid-air; and so every particle of matter of which each is composed. So every single part and parcel of any single vegetable, animal, and thing composed of parts, is always found in its own individual place. Thus roots, bark, trunk, limbs, leaves, fruits, each bone, muscle, and organ of the entire body of whatever has a body, is invariably found in its own particular spot; eyes always in the fore part of the head, never in its back, or in the soles of the feet. Now is not “a place for every thing, and every thing always in its own place” as universal an element of Nature as is gravity, or bulk? And yet authors on Natural Philosophy forget to mention both Place and Order, as also Color and Number: for nothing is or can be uncolored, inside and out, or numbered, whether standing alone as number one, or

as one among others — omissions which the analysis of these Phrenological Faculties supplies. Like remarks apply to other inherent elements of things, such as their ages (Time), changes or operations (Eventuality), &c., all of which Phrenology analyzes. Yet these omissions do not end even here. Look in one direction more.

FIRMNESS is another element of things and ordinance of Nature, as seen in the *stability* of her hills, the permanency of her rivers, the regularity of her seasons, the unchangeableness of her natural laws, &c. In short, IMMOBILITY, this identical element is the primal status of matter, except when the forces of Nature cause its change.

PROTECTION (Caution) is another element, effected by ten thousand means, and appertaining to everything in Nature. POWER, or Force, is another, and Destruction, of which death and dissolution are fractions, and BEAUTY, and INFINITY, and CONSOCIATION (Friendship), and even-handed JUSTICE, Kindness, &c., furnish other illustrations. All these are as inherent, fundamental and primal constituent elements and institutes of Nature, as is Magnitude, and as such should have been noted, yet are omitted in all works on Natural Philosophy; but are ANALYZED BY PHRENOLOGY. Behold, O thinking reader, that sublime UNFOLDING OF UNIVERSAL Nature, as well as of man, effected by Phrenology! In short: —

THE PRIMAL ELEMENTS of every man, every animal, every vegetable, everything extant, are identically the same in all, which these Phrenological Faculties express. Or thus: *Every Phrenological Faculty ramifies itself throughout universal Nature*, and everything in it, while every attribute of Nature has its counterpart in one or another of these Phrenological Faculties. What higher proof is needed, is possible, that Phrenology is TRUE — is a part and parcel of that Nature it thus analyzes! Look again, finally: —

PHRENOLOGY ANALYZES GOD, AND HIS ATTRIBUTES. It first demonstrates the Divine EXISTENCE, and then reveals every one of His Divine Attributes by means of this principle: —

GOD makes all things in accord with His *own* nature. He impresses his own qualities upon all His works. Surely, He can impress no others. He puts his own private mark, signet, seal, upon all. “In His *own* image, and after His *own*

likeness, created He "man, and all else. Nature is like man,³ man is like God :⁴ therefore, Nature, man, and God, are each like both the others ; and Phrenology in analyzing man, analyzes God, and all His works ! — doctrines fully expounded in our Fourth Part. Not all these phrenological Faculties, and, therefore, not all of these Divine Attributes have yet been discovered, but the analysis of them all *analyzes all that "is,* in the heavens above, in the earth beneath, and in the waters under the earth," and likewise THE GREAT GOD AND FATHER of all !

READER, this subject of Phrenology we thus approach is no trifle. Angels may not be able to survey all its ramifications, but the Author proposes to give his readers a deeper yet clearer insight into it than can be obtained elsewhere. Fear not lest its abstruseness precludes its comprehension ; for all truth is simple, and easily understood, and we propose to make both this science itself, and these, its sublime philosophies, just as easily perceived as daylight, so that a child can fully understand all contained in this book.

5. — DEFINITION, LOCATION, CLASSIFICATION, NAMES, AND NUMBERS OF THE FACULTIES.

AN EARLY DEFINITION of all the Faculties collectively, is rendered necessary by our often being obliged, especially in giving their combinations, to refer to many of them before we reach them in their order.

WE HAVE CHANGED some of their old names for those more expressive of their precise functions. True, after the public have once associated certain names and things together, changes confuse ; yet this should not forestall all genuine improvements. The Author has long thought that most sciences might be popularized, and their study greatly promoted, by Anglicizing their terms. Thus, how much better to use the English word One-seed-lobed than Monocotyledonous, to signify the same thing ; and Lower Jaw than Inferior Maxillary.

PARENTAL LOVE is much shorter and better than Philoprogenitiveness, yet designates the same element. Why not use Friendship rather than Adhesiveness ? Especially since "sticking to" does not, while Friendship does, exactly express the identical element intended. Approbativeness and Self-

Esteem do not, while Dignity and Ambition do, convey a distinctive idea of the true functions of each ; while Kindness is much shorter and more expressive of its true function than Benevolence, as is Observation than Individuality. We have made no changes not obvious improvements.

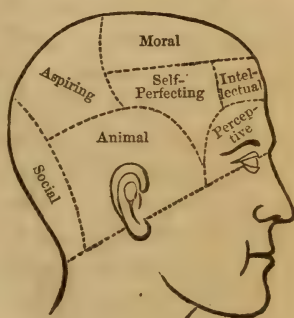
AMATIVENESS is not as good a word to designate the sentiment it christens as Love. Though the two mean precisely the same thing, yet the *interpretation* generally put upon Amativeness conveys a wrong impression of its true function. The real normal primal office of this Faculty is that pure, holy *plutonic* love which eventuates in conjugal affection ; yet the meaning now generally attached to it is lust, a gross perversion and debasement of this exalted sentiment. We, therefore, rebaptize it LOVE, and shall use Amativeness to signify its mere physical aspect.

THE PRECISE FUNCTION of each Faculty is what its name should signify, and what we here attempt to give by using the English noun most expressive of its office, giving the old name in its definition, yet in no instance varying from the *function* heretofore ascribed to any Faculty. Short words are best, when they express the same thing. Force is shorter, and expresses the precise function of Combativeness, better than the latter term ; while Worship conveys a much more correct idea of the religious sentiment than Spurzheim's Veneration, or Gall's "sense of God and Religion ;" yet Adoration is equally appropriate. What is gained by these old *-iveness* and *-iousness* endings, which we have mostly omitted ? Hope, Order, Time, Firmness, and many others are right now, and retained : and we have made no changes not easily and instantly understood by all.

THESE NUMBERINGS differ from Combe's, as did his from Gall's and Spurzheim's, yet coincide with my own previous ones, except in numbering Faculties heretofore marked doubtful, and in my starting-point. In 1835 I adopted this *principle* of numbering : Beginning with the organ lowest down and farthest back, I numbered them in the order of their *location upward and forward* in the head ; from which I have since seen no occasion to deviate, except that I now begin *at the ears* or top of the spinal marrow, where Nature begins, namely : with VITALITY and Appetite, those functions with which life *starts*, following with the functions of animal life and passing

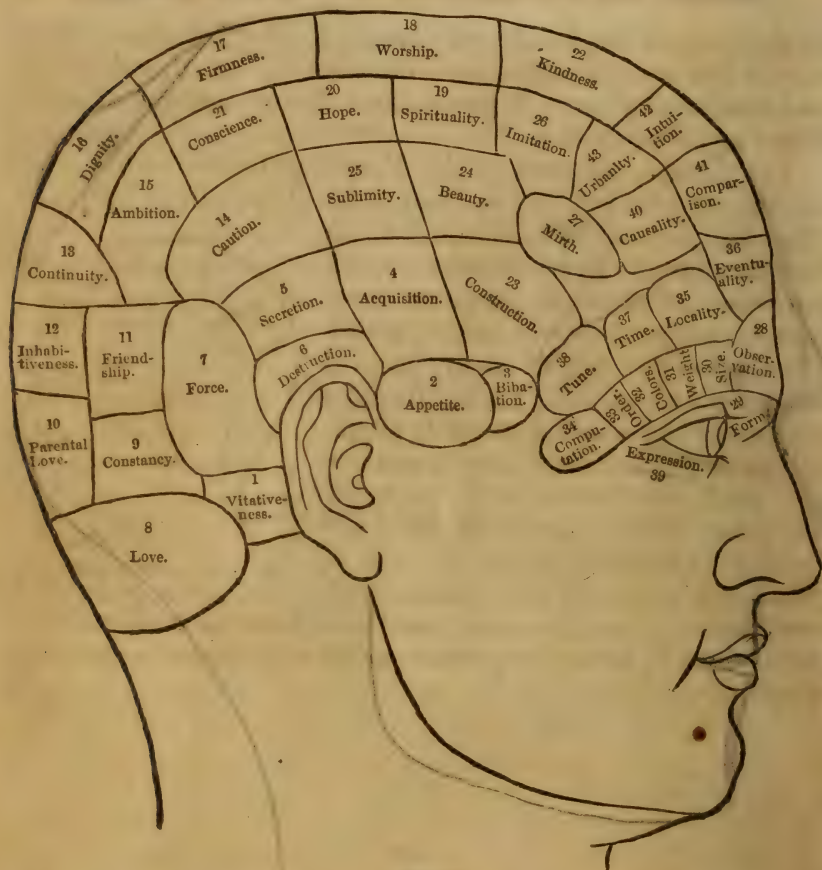
to the back of the head and over in front; yet since Worship is the central organ and function of the moral group, and Spirituality next, I place them before, instead of after, Hope and Conscience.

THE NATURAL GROUPING of the Faculties furnishes our only classifying *principle*, and is enough for all practical purposes. That is: Nature has classified them by placing all those *together* which perform one general range of function, or accomplish one great result. Thus, all those which carry forward any of the social and family feelings are located in a social group by themselves, in the back and lower part of the head, all those which carry forward any of the moral functions are located by themselves on the top of the head, while all the Intellectuals are located in the forehead, the Perceptives in its lower, the Reflectives in its upper portion, as seen in the accompanying diagram.



NO. 1.—GROUPS OF ORGANS.

LOCATION, NUMBER, AND DEFINITION OF THE ORGANS.



No. 2.

All the Faculties are subdivided into nine groups: the Animal, Domestic, Moral, Self-perfecting, Senses, Perceptives, Literary, Reflectives, and Aspiring.

CLASS I. THE FEELINGS, located in that part of the head covered by hair.

I. THE ANIMAL PROPENSITIES, which supply bodily wants by the instincts.

1. VITATIVENESS — The Doctor; longevity; love and tenacity of life; resisting disease; clinging to existence; toughness; constitution.

2. APPETITE — The Feeder; "alimentiveness;" hunger; relish; greed.

3. BIBATION — The Drinker; love of liquids; fondness for water, washing, bathing, swimming, sailing, stimulants, water scenery, &c.

4. ACQUISITION — The Economist; thrift; industry; frugality; the acquiring, saving, and laying up instinct; desire to own, possess, trade, and amass property; the claiming, mine-and-thine feeling.

5. SECRECY — The Concealer; self-restraint; reserve; policy; tact; cunning; management; evasion; double-dealing; art; trickery; finesse.

6. DESTRUCTION — The Exterminator; executiveness; severity; sternness; harshness; love of tearing down, destroying, causing pain, teasing, &c.; hardihood; endurance of pain; revenge.

7. FORCE — The Defender; "combativeness;" courage; snap; efficiency; boldness; defiance; determination; love of opposition, encounter, &c.

II. THE SOCIAL GROUP, which creates the family ties, and domestic affections.

8. LOVE — The Creator; "amativeness;" sexuality; gender; desire to love, be loved, and fondled; sexual admiration, courtesy, and blending; passion.

9. CONSTANCY — Fidelity; conjugality; mating; one love; marriage.

10. PARENTAL LOVE — The Nurse; philoprogenitiveness; attachment to own offspring; love of children, young pets, &c.; that which cuddles, and babies.

11. FRIENDSHIP — The Confider; fondness; sociability; love of society; desire to congregate, associate, visit, make and entertain friends, &c.

12. INHABITIVENESS — The Patriot; love of home, domicile, country, the place where one lives, or has lived; patriotism, &c.

13. CONTINUITY — The Finisher; consecutiveness; connectedness; poring over one thing till it is done; prolixity; unity; finishing as we go.

III. THE ASPIRING SENTIMENTS, which dignify, elevate, and ennoble man.

14. CAUTION — The Sentinel; fear; making sure; carefulness; prudence; solicitude; anxiety; watchfulness; apprehension; security; protection; provision against want and danger; foreseeing and avoiding prospective evils; discretion; care; vigilance.

15. AMBITION — The Aristocrat; approbateness; pride of character; love of publicity, praise, display, fame, a good name, esteem, fashion, social position, and popularity; sense of honor.

16. DIGNITY — The Ruler; "self-esteem;" self-respect, reliance, appreciation, satisfaction, and complacency; independence; nobleness; love of liberty and power; the self-elevating, commanding instinct; manliness; authority; domination.

17. FIRMNESS — Stability; decision; perseverance; pertinacity; fixedness of purpose; aversion to change; indomitability; will-power; obstinacy.

IV. THE MORAL SENTIMENTS, which render men moral and religious.

18. DEVOTION — The Worshipper; veneration; piety; churchism; adoration of God; reverence for religion and things sacred; love of prayer, religious observances, &c.; obedience; respect; conservatism.

19. SPIRITUALITY — The Prophet; intuition; prescience; prophetic guidance; the "light within;" forewarning of what is to be; second sight.

20. HOPE — The Expectant; anticipation of future success and happiness; that which looks on the bright side, builds fairy castles, magnifies prospects, and speculates; buoyancy; light-heartedness.

21. CONSCIENCE — The Jurist; integrity; moral rectitude and principle; love of right and truth; regard for duty, moral purity, promises, and obligations; penitence; contrition; approval of right; condemnation of wrong; obedience to laws, rules, &c.

22. KINDNESS — The Good Samaritan; "benevolence;" sympathy; goodness; humanity; philanthropy; generosity; the neighborly, accommodating, humane, self-sacrificing, missionary spirit.

V. THE PERFECTING GROUP, which refines man, and creates the arts.

23. CONSTRUCTION — The Mechanic; ingenuity; sleight-of-hand in using tools; invention; love of machinery; manual skill; dexterity; mechanism.

24. BEAUTY — The Poet; "ideality;" taste; refinement; imagination; love of perfection, purity, poetry, flowers, beauty, elegance, propriety, gentility, the fine arts, &c.; personal neatness; finish; style.

25. SUBLIMITY — Perception and love of grandeur, infinity, vastness, illimitability, omnipotence, eternity, boundlessness, and endlessness.

26. IMITATION — The Mimic ; conformity ; ability and desire to copy, take pattern, imitate, do, make, and become like, mock, act out, &c.

27. MIRTH — The Laugher ; wit ; facetiousness ; ridicule ; sarcasm ; love of fun ; disposition to joke, and laugh at what is improper, ill-timed, or unbecoming ; perception of the absurd and ridiculous, &c.

CLASS 2. THE INTELLECTUAL FACULTIES, located in the forehead.

VI. THE SENSES, or Hearing, Seeing, Feeling, Tasting, and Smelling.

VII. THE PERCEPTIVES, which relate man to the material properties of things.

28. OBSERVATION — The Looker ; cognizance of individual objects ; desire to see and examine ; minuteness ; scrutiny ; looking ; gazing.

29. FORM — The Speller ; configuration ; cognizance and memory of forms, shapes, faces, countenances, and looks ; perception of likenesses.

30. SIZE — Measurement by eye ; cognizance and memory of magnitude, quantity, bulk, distance, proportion, weight by size, height, &c.

31. WEIGHT — The Sailor ; balancing capacity ; marksmanship ; intuitive perception and application of the laws of gravity, motion, &c. ; ability to keep one's balance in walking aloft, riding, climbing, sailing, &c.

32. COLOR — The Painter ; perception, love, and recollection of colors.

33. ORDER — The Arranger ; method ; system ; having places for things, and things in their places ; observing business and other rules, laws, canons, &c.

34. COMPUTATION — The Mental Arithmetician ; numerical calculation ; ability to reckon figures in the head ; memory of numbers, &c.

35. LOCATION — The Traveller ; cognizance and recollection of places, roads, scenery, position ; desire to see places, and ability to find them ; the geographical faculty ; keeping the points of compass, &c.

VIII. THE LITERARY, or knowing Faculties, which learn and remember.

36. EVENTUALITY — The Historian ; memory of facts ; recollection of circumstances, news, occurrences, events, and what one has seen, done, heard, said, and known ; love of history knowledge ; smartness ; practicality, &c.

37. TIME — The Innate Time-keeper ; periodicity ; punctuality ; ability to guess what time it is, keep time in music, tell when, how long since, dates, &c.

38. TUNE — The Natural Musician ; tone ; ability to learn tunes by ear, and repeat them by rote ; the musical inspiration, knack, and genius ; memory of sounds.

39. EXPRESSION — The Talker ; " language ; " communicating by natural language, looks, gestures, actions, written or spoken words, intonations, signs, &c.

IX. THE REFLECTIVE FACULTIES, which reason, think, plan, and understand.

40. CAUSALITY — The Thinker and Planner ; reason ; sense ; causation ; deduction ; originality ; thought ; forethought ; depth and comprehensiveness of mind ; adapting ways and means to ends ; invention ; creating resources ; reasoning from causes to effects ; profundity ; judgment.

41. COMPARISON — The Critic ; analysis ; induction ; classification ; ability and desire to compare, draw inferences, illustrate, use figures, &c.

42. INTUITION — The Physiognomist ; perception of truth ; discernment of character and motives ; intuitive reading of men by minor signs.

43. URBANITY — " Agreeableness ; " blandness ; persuasiveness ; pleasantness ; complaisance ; suavity ; palaver ; that which compliments ; politeness, &c.

Their relative power can be indicated by numbers, in a scale of 1 to 5, by letting 5 signify Large ; 4, Full ; 3, Average ; 2, Moderate ; and 1, Small.

6. — IT ENABLES ALL TO READ AND MANAGE MEN.

READING CHARACTER is by far the most delightful and profitable reading in the world. Nothing else bears any comparison with it in either inherent stirring interest, or practical value. The study of human nature, by common consent, surpasses all other studies in all respects. And well it may : for its *subject*, man, excels all others. Is the study of the natural history of birds, fish, and animals interesting, and is not that of man superlatively more so ?

ABILITY TO READ MEN ! What other ability bears any comparison with this ! Animal functions are restricted to their narrow range of instincts, whilst man exhibits the utmost conceivable variety and range of character and talents. To see beavers build their dams and robins their nests interests us ; then how much more to see men build steam machinery and floating palaces ! Each animal can usually do but a few things right well ; but behold how *vast* the number of things human beings can execute, especially in their *collective* capacity ! All studies are interesting, and teach useful lessons ; but the study of man almost infinitely surpasses them all, in both ! All science captivates all deep minds ; but the science of human life as far outstrips them all as mind exceeds matter.

HUMAN NATURE IS AS SCIENTIFIC as any other study ; has its specific laws as much ; and they are as cognizable, though more numerous. Indeed, all laws culminate in those which evolve and govern humanity. In studying man we are but studying the quintessence of Nature.³

ABILITY TO READ this man and that in a picnic and party, on change and in church, at concert and lecture, by the wayside and fireside, in public and private, anywhere and everywhere, is a greater *personal luxury*, and an art more practically useful, than any other whatever. To see the workings of this Faculty in this man, woman, child, and of that or those in others is an art, a gift, a talent, a possession, an acquisition, a personal comfort, without a peer.

THIS IDENTICAL GIFT, Phrenology imparts, and this work teaches. Indeed, this is its specific object. And it teaches it as nothing else *can* teach it. It begins at the tap-root of

its subject, and follows it out throughout all its *rootlets*. No one, after reading it, can ever go anywhere among men without thinking, "That man has this organ large, and that small, which will make him do this and shun that." "I can touch this man thus, and that one thus, but no otherwise. This man did thus and so from this motive, while that woman said that from that motive. Such a look sprang from such a Faculty thus strong or weak; while that other man or woman made that remark because of this, that, or the other fundamental Faculty." As a detector of motives a knowledge of Phrenology excels all else as a thousand to one!

TO OPERATE successfully on men's minds and actions often becomes desirable. What is as much so? This is what gives the neighbor popularity at home, the business man bargains, the politician votes and offices, the minister moral influence to do good and promote virtue, the speaker hearers, writers readers, and all who persuade men in any direction their persuasive powers. What is it worth to be able to apply *that* power as you will! Give me *that*, though you deny me what else you may. Its *practical* value far exceeds that of rubies and diamonds!

MOTIVES govern men just as much as gravity governs matter. And they are just as sure in their action. Men will feel and act thus and so from these motives, and that way from those, just as surely as water will run this way or that according to descents; nor can men be made to feel or act contrary to the laws of their mental constitution any more than water can be made to run up hill. And as water, forced up, will run down the first instant possible; so men, if driven by stress out of their natural course, will seize the first available moment to rush back, and to the opposite extreme. The laws of matter do not govern it any more absolutely or uniformly than the laws of mind govern human feelings and conduct. And as, in order to operate on matter, you must first understand its laws, so ye who would influence your fellows, for your own good or theirs, must first understand those *mental* laws and motives by which all men are controlled.

SUCCESS IN LIFE is about the all of life. This success depends mainly upon influencing men to do as you desire; and

this upon your touching the mainspring of human motives just right, and this upon your first *knowing* them. Self-knowledge is the most important knowledge on earth, and a knowledge of human nature in general the next; and Phrenology reveals them both; while this book unfolds both in and by teaching this "*science of man*." Then can any at all afford to ignore it? Where stands reading that love story, which titillates your love-feelings for the moment, in comparison with that life-long *power over men* conferred by reading this book! for, in analyzing the *principles*, the primary *Faculties*, the actuating *motives*, which sway men, you learn the *chords and notes* of the human soul in general, and of particular persons; and thereby how, by touching these chords or those, to play on humanity any tune you may desire; thus making them your willing servants in doing just as you desire.

THE FOUNTAINS of humanity are here dug out, disclosing its outgushing waters, which you can now follow down and out in action *ad libitum*, while physiognomy, and all other branches of human study, are but fragmentary expressions of fundamental powers, not the analysis of the powers themselves. As those who would understand a tree must begin at its *tap-root* and run down its various roots to its rootlets, and up its trunk, and out its branches to its twigs, leaves, and fruits; so those who would know anything of man scientifically or tangibly must begin where the life entity inheres, namely, in its mental *Faculties*. What one of these does physiognomy disclose? On what does it rest? What and where are its corner stones! It may aid Phrenology, but is to it what starlight is to sunlight.

THIS BOOK, O reader, teaches you Phrenology better by far than any other; and in doing so, teaches you human nature in general, and the *specific* nature of all you meet in particular, and above all *your own self*. It teaches you whom to trust, and whom not; whom to seek, and whom to shun; who can do this, and who that best, and who neither; whom to select for a business or a conjugal partner, and whom to discard; in short, who is whom, and who is not, in everything.

THIS knowledge will be worth more to you than all the money and all other possessions you can ever obtain. Judge

wisely, then, whether it is worth your purchase, perusal, and life-long *study*. We propose to tell you more about your fellow-men than you ever dreamed it possible to find out, and thus to give you an advantage over those who have not read it, worth many thousand times its cost!

7. — THE COMBINATIONS OF THE FACULTIES.

VARIETY is an ordinance of Nature. Scarcely any two things are precisely alike throughout. Every leaf, blade of grass, apple, fruit, twig, &c., though from the same tree, differs from all others in form, size, color, taste, or some other quality. All animals differ from all others, even of the same variety, in some of their minute diversities. This is still greater among men than among any of Nature's other works. No two faces, or foreheads, or tones of voice, or tastes, or talents, or characteristics, are precisely alike throughout. If they were, how could we know them apart? "What is one's meat, is another's poison."

MEN DIFFER MENTALLY from each other even more than physically. Though every person can be readily designated from all others by some peculiarity of face, form, voice, color of some part, &c., yet the *mental* dissimilarities of men are still greater; and every person *differs from himself every minute* of his life, as compared with every other minute! If anything is infinite, surely this diversity of human character, thought, feeling, everything, is indeed infinite. Of course whatever analyzes the human mind must make provision and account for this infinite variety.

PHRENOLOGY PROVIDES AND ACCOUNTS for it; yet no other system of mental philosophy does or can do either. Does Locke, Stewart, or Brown? They have but few Faculties, and no variegating conditions, modifying each, while Phrenology has over forty Faculties, and each one capable of almost infinite diversification. The twenty-six letters of the alphabet can be made to spell a number of words, each differing from all the others, which it would take *forty-one* figures to express! — a number infinitely beyond all human conception! Then how many *more* could *forty-three* be made to spell! for every additional number adds to the sum total *more than man can possibly conceive*! And each of these is still further diversified by innumerable organic conditions, sur-

rounding circumstances, diverse educations, climates, diets, avocations, and other diversifying influences without number. What proof that Phrenology is true, is or could be stronger than these two conjoint facts—this infinite diversity in human character, and that Phrenology makes ample *provision* for all that is, ever has been, or ever can be, among all mankind forever! Let these few samples illustrate.

FORCE defends, resists, opposes, combats,¹⁶⁹ &c., yet no two have precisely the same amount and kind of antagonism. One man resists more or less than others, and also shows powerful resistance in some things, along with tameness in others; while another resists stoutly wherein the first resists little, yet but little wherein the first resists powerfully. One man shows a thousand fold more Force than another, while no two out of millions evince it as to precisely the same things. One will defend wife or husband lustily, but not child; a second, child, but not conjugal partner; a third, own child, but not the children of others, or each one different children; a fourth purse, but neither child nor partner; a fifth, character, but neither purse nor family; a sixth, the right; a seventh, home; an eighth, the oppressed; a ninth, his religion, yet none of the former objects, &c., *ad infinitum*. Besides accounting for these differences,

PHRENOLOGY TELLS WHAT EACH DEFENDS. It shows who has the most *general* resistance, and also what *particular* things each combats and protects the most vigorously. Large Force in A. defends this woman he loves, yet fights that one he hates, but does not defend his church, or the right, or his character; because Love is strong, and has fastened on this woman, but become prejudiced against that; yet having weak Acquisition, Worship, Kindness, and Conscience, he defends neither his church, nor the right, nor his property; whilst B., with the same amount of Force, but with Love weak, does not defend loved ones, but having Acquisition strong with Ambition weak, defends purse, yet not reputation; while C., with Ambition strong and Acquisition weak, defends his good name, but does not resent cheatery; yet one with Force weak defends neither, but tamely allows all to impose on him with impunity in all things. Reader, have you never been surprised to see the same man let himself be put upon so tamely in this respect, yet contend

so lustily when the least wronged in that? Why should he be so "spunky" in this, yet so tame in that? His Phrenology answers, and tells just how much each person will resent, and in what respects, and in what not.

CONSCIENCE furnishes another example. A. is just as scrupulous as he can be to pay every farthing to all, precisely as he agreed to pay, and would no more wrong any one out of a dime than cut off his finger; and yet, *mirabile dictu*, he does not scruple to ruin a virgin, nor dishonor his confiding friend's wife. That is, though pecuniarily just, he is a most outrageous sexual sinner. C.'s conscience torments him if he fails to attend church, yet he has no compunctions for not paying his washerwoman who is suffering for want of her hard-earned pittance; and yet all have large Conscience, which works with some organs large in one, but small in another.

THESE COMBINATIONS determine and disclose all character; and yet no former Phrenologist has any more than barely mentioned them, and none described the effects of the different Temperaments on the different combinations, or shown what organs and combinations go with what Temperaments.

THESE COMBINATIONS constitute a specialty of this work; yet without it, any and all works on Phrenology must needs be fundamentally defective. Why should a subject thus important and apparent have been almost ignored till now? This book gives sufficient combinations from which to decipher enough more for all practical life purposes, and will enable all to study out others.

8. — THE DIFFERENT TEMPERAMENTAL AND ORGANIC CONDITIONS.

DIFFERENT TOOLS work out very different results. No functions can ever be put forth except by means of organs, and by their own *specific* organs at that.²⁵ Coarse, strong organs are naturally adapted to manifest coarse, strong functions, and delicate functions are executed by delicate organs. Of course, by knowing just what kind of organisms put forth what qualities of functions, we can predicate the functionism from the organism.

GALL took little account of temperamental conditions, and Spurzheim but little; while Combe took more, yet gave only a meagre and unsatisfactory description of the effects of dif-

ferent physiological conditions upon the mental manifestations. Opposition to Phrenology has grown more out of this temperamental omission than out of any other thing. For example: A leading doctrine of Phrenology is that size, "other things being equal," is the great measure of power; and therefore that great brains must needs accompany and indicate great minds. And yet the fact is notorious that smart, brilliant, poetic, efficient, learned, eloquent men often have moderate-sized heads, and such men, often piqued because they think this science snubs them, pay it back by ridicule; whereas, these "other organic conditions," duly understood, would show them that, and *why* they are thus brilliant, and that Phrenology is specifically true in their individual cases. For example:

"THE AUTOCRAT OF THE BREAKFAST-TABLE," doubtless thinking his diminutive head and sloping forehead "hit" by Phrenology, ridiculed it in sheer self-defence; whereas, in point of fact, it highly compliments him in ascribing to him one of the *very* best of writing Temperaments to be found,⁵⁷ and an organism most fine-grained and exquisite in quality, along with really prodigious Perceptives, Beauty, Imitation, and all kinds of Memory, with sufficient Comparison and Intuition to put together the workings of his Faculties in the best manner possible to render him a perfect "ready writer." No better illustration need or could be had than this same Autocrat himself furnishes. Now if he had only understood these qualifying conditions, he would not thus have disparaged himself by hitting a science which thus compliments him.

THIS WORK GIVES THE FIRST full description of these temperamental and organic states in their five degrees of development. Though it may not be perfect, yet it far exceeds any of its predecessors in this respect. Let a comparison of it with anything and everything else ever written on the Temperaments attest its relative merits in this direction. The Author has observed and studied this point more relatively than any other. It is the second most important thing to be scanned in reading character, the location of the organs alone exceeding it; and the two *together* giving a comparatively complete diagnosis of individual character; whereas all prognostications founded on the mere size of the

organs must fall far short of completeness. The Author makes this point a specialty in this work.

ITS NEW THEORY OF ORGANIC FORMATION comes under this general head. That theory, coupled with its fundamental doctrine, that the essence and personality of all things inheres in their *mentalities*, explains *why and how* every individual thing takes on its special physical form and peculiarities of structure. Its theory is, that the *spirit nature* of everything is to it what the chit of all seeds is to the product of that seed; namely, the grand predeterminer of its form; thus: When this spirit nature needs claws, as in cats to catch mice, this spirit, or mental feline *nature* forms for itself those claws it will need when grown up, to carry out its rat-seizing instinct. But our present purpose is to call attention to this theory here, rather than to expound it, which is done under the Temperaments.⁵⁰

9. — DESCRIPTION OF THE FACULTIES IN FIVE DEGREES OF POWER.

THE EXCESS of Faculties generally led to their discovery. This directed the attention of Gall, Spurzheim, and Combe mainly to isolated cases of excessive development, instead of to the effects of their normal and usual action on the general character. Hence they predicated chiefly upon one or two organs only, when *extremely* large or small; yet none of them ever pretended to predicate the *general* characteristics of the persons examined in other respects.

THE AUTHOR WAS THE FIRST to describe the influences of their different *degrees* of manifestation on character. In his chart, published in 1834, he described them in three degrees, and in his "Phrenology Proved," composed wholly by himself, and published in 1836, he described them in six degrees; while in this work he describes them in five: — average, and full and large above, and moderate and small below, dropping the very small as virtually embodied in small, and very large, in large.

THE PRACTICAL VALUE of these degree descriptions can scarcely be overrated. Without its aid, no correct estimate of any person's general character can be formed. To be able, as did Gall and Spurzheim, to say, "This person is a natural mechanic, and that a natural thief," is indeed something, yet how much more to be able to say, "This man's

mechanical genius is in this proportion to his other talents, and takes this direction, and that man's that: besides being added to by these strong Faculties, and detracted from by those weak ones; which collectively gives him these mechanical abilities thus and so in the aggregate;" or "this child has so much Fear, with so much or so little Force, as an offset." Predicating character *as one great whole* is infinitely more useful than confining observations to one or two excessive or defective traits. So much or little of this, with so much or little of that, and thus much of the other, taken *together*, create such and such results and capacities, alone can give any just estimate of character, or lead to really useful results; and when arrived at, are of the highest practical value.

THESE DEGREE descriptions of the Faculties and Temperaments constitute a distinctive feature of this work. Students of Phrenology will some day appreciate its practical importance, which they have not thus far done. With this mere mention of it, we shall let it speak for itself, after giving this illustration of its practical workings and uses.

THE ABSOLUTE POWER of each Faculty, instead of the mere size of its organ, is here described. Thus, when any organ is only average in actual size, yet if its activity, conjoined with the existing Temperament, renders its practical *workings* full, it is described as full, and should be marked 4 in that person, so that those marks may designate the specific degree of power in each Faculty, as *manifested* in each person. That is; the use of figures is to signify the degrees of the *manifestations*, and should express the *results* or effects on character of each Faculty, instead of the mere size of its organs, which is otherwise useless.

THE ACCOMPANYING TABLE, when correctly marked, in accordance with the power of any person's Faculties, will enable him to *read his own mentalities* throughout the book; that is, select those particular passages in it which specifically describe himself. Its plan for designating the character is seen at a glance by referring to the table, with its explanation, which follows the title-page. No person, no family can have any piece of property of more permanent practical value than this book thus correctly marked.

10. — ITS APPLICATION OF PHRENOLOGY TO SELF-CULTURE AND PERFECTING CHILDREN.

IMPROVEMENT IS THE WATCHWORD OF NATURE. Every animal, tree, vegetable, and thing struggles perpetually to grow larger, taller, and better. Good wines improve with age, and every year adds to human knowledge.

EXCELSIOR is one of the strongest sentiments of the race. Every child swells with desire to become a full-grown man or woman, and all adults to perfect themselves in what they attempt. Reader, is not "I would better myself" "a ruling passion" in your *own* soul? Whatever can contribute to it thereby becomes proportionally valuable. What could you afford to give, rather what *not* afford, in order to be able to improve yourself or darling children only one per cent. per year during this life! Yet this work will tell you how to improve yourself and them ten or more per cent. per annum forever!

UTILITY is the end of all things, and measures the value, absolute and relative, of all. Some *good* is accomplished by the creation of every natural production. Even Philosophy has its goal in the utilitarian ends it achieves. The only rationale of the eye as a whole, and of each of its individual parts, is to promote that useful end, sight. The only adaptation and end of every bone, muscle, and organ of the body, and of every part of every vegetable and flower, and even of wind, tide, air, and sun, centre in the *good* they accomplish. Will the reader please analyze anything and everything he can think of, in view of this utilitarian principle, if only to convince himself both that it is true, and the ultimate of all philosophy, of all facts, of all functions, of all that is! *Practical utility* is the ultimate goal of universal Nature!

ALL INVESTIGATIONS of all things, all works and writings, all inventions and labors whatsoever, all we do, say, and are, should, therefore, conform to this fundamental ordinance of Nature. In short, God has *utility*, in other words *happiness*,¹⁵ for His sole ultimate object, and His creatures, in all they say and do, should pattern after this His august example. To do GOOD should be the mainspring, the motor principle, of our entire lives, public and private.

THE SUCCESS of all things impinges upon this identical utili-

tarian condition. That invention, that book, that enterprise, that everything, will be the more triumphantly successful in the exact ratio of its practical utility. Self-good is man's mainspring:¹⁶² therefore that interests men which *benefits* them; while whatever does not benefit, no matter how ingenious or curious, remains unnoticed.

A POLITICIAN who wishes the votes of constituents, must promote or promise to further their cause. A purely selfish politician will soon lack votes, and a selfish neighbor will soon be "let severely alone," and left to fall. The true way to secure one's *own* personal success consists in forgetting self, and laboring *pro bono publico*. This great, this eternal truth, appertains to all things and all ends whatsoever.

THIS WORK claims to be conceived and prosecuted solely in view of this fundamental principle. As far as the Author knows his own heart, his interior motive in penning every single chapter, section, and paragraph is to benefit, make happier and better, every single one of all his readers and their acquaintances, not for to-day merely, nor for this short life only, but *as long as they exist*. And the best way to do this consists in showing them how to improve themselves.

SELF-DEVELOPMENT is incomparably life's greatest work, and most "paying" investment.⁶⁶ God has done all He *could* do to render human life great and glorious, beyond our utmost conceptions!¹⁴ Yet all this is but the raw materials of existence, the silk cocoons, which each one must wind, color, weave, finish, cut, fashion, make up, and then *wear forever*, with all its qualities always *redoubling*. Our own individual tastes and skill must be put in commission to select these colors and those, thus blended to our liking, and variegated and fashioned as we ourselves may prefer; thereby making it our *own* garment, so that we may prize and love it.

PERSONAL SELF-INTEREST requires that we make ourselves and children just as perfect as possible. Every motive of existence prompts and inspires us to do this. Desire and effort to become, and render our children, perfect human beings, without fault or blemish, with every human excellence carried out and up to the highest point attainable, is the most glorious goal and prize within our reach, and glorious enough for angelic ambition. "A perfect man's the noblest work of God!" Yet this requires the united efforts of God

and man — demands superior original capacities with which to begin, perfected by *self-culture*. As good soil requires good husbandry to bring a great crop; so, be our natural gifts what they may, they must be cultivated. No office, not even “the Presidency,” no fortune, not even Rothschild’s millions, nor all other earthly goods and possessions combined, are a tithe as valuable as is SELF-PERFECTION!

KNOWING ITS CONSTITUENTS is the first step in its attainment. In what does it inhere?

IN DEVELOPING OUR PRIMAL NATURE. God has made man just as perfect as He knew how to; but leaves each to evolve by culture the powers He confers by Nature. *To know those powers* is the first prerequisite in their evolution. We need to begin all self-improving efforts with a distinct knowledge of the *elements* of human life themselves, and then of their right proportions and modes of action. All self and child-improving efforts not based in these fundamental principles, like working in the dark, must needs be futile. Human perfection consists in evolving the human functions, *knowing* which is a prior and a paramount *sine qua non*.

THIS ANALYSIS OF PRIMEVAL HUMANITY Phrenology furnishes. It reveals *the human mind*, and its material organism, and thereby unfurls a standard of perfection as a model after which to pattern. We need to know first just *what* to become, and then how to mould ourselves into the image required. All this, and much more like it, Phrenology discloses. And one leading object of this volume is to apply this glorious science to self-culture, and the improvement of children. What human objects are or ever can be equally important! How effectively this subject is handled, let individual readers attest by its beneficial influence in inspiring and guarding their own self-and-family-perfecting efforts!

11.— A RIGHT THEOLOGY THE BASIS OF ALL CIVILIZATION, AND HUMAN INSTITUTIONS.

RELIGION, with love, or gallantry, have constituted the two predominant sentiments of our race all the way up from its first dawnings until now; and this bids fair to continue till the end of time. Civilization itself, with all its blessings and errors, originated mainly from these its two chief agencies. All heathen society, customs, opinions, &c., are cast almost

wholly in the mould of their respective religions; and Christian civilization grows mainly out of the Christian religion; while all future society and history will be almost entirely what the future religious doctrines and practices of communities make them; so that a *right Theology* becomes of *paramount* practical importance to the whole family of man!

THIS AUGUST PROBLEM this volume grapples, and attempts to expound. Such an attempt would seem ill-advised, even rash, but that it propounds

A NEW DEPARTURE from all previous modes of investigating this whole subject of religion, by planting itself upon this original and only true standpoint — that of the *primal moral constitution of man*, as taught by Phrenology, by showing what religious doctrines and practices this constitution teaches.

POLEMICAL AND SECTARIAN theology it entirely ignores. In *that* arena it might find superiors, in this, it stands “solitary and alone.” Having no religious “denomination” to please or avoid displeasing, it treats its subjects wholly irrespective of all predecessors, contemporaries, and successors; neither propounding, defending, nor opposing any isms or dogmas, but having an “eye single” to religious truth, and nothing *but* the truth, though not the *whole* truth; which as far surpasses all human comprehension as its infinite AUTHOR transcends all finite researches.

THOUGH RELIGIOUS TRUTH, like astronomical, chemical, and every other, is “the same from everlasting to everlasting,” yet in this, as in them, man’s knowledge and *discoveries* in all are progressive. Those who would enter upon an entirely new region of religious exploration will here find new premises and new inferences. It proposes to *add to* all existing religious ideas, rather than to defend or contend for or against any. It discusses its subject *de novo*, and with a bold, free hand; hoping both to *promote*, rectify, and improve the religious doctrines and practices of mankind. Let those who are unwilling to investigate any new religious problems, hug their present cloak; yet those who have any independent religious thought or desire, will here find *materials* for reflection and progress. It simply expounds the moral and religious doctrines taught by the analysis of man’s moral Faculties; leaving each reader to compare them with his special views of biblical and sectarian doctrines.

TWO BASILAR PRINCIPLES, God and immortality, constitute the two nuclei around which all other religious truths and doctrines naturally group themselves; so that this subject naturally subdivides itself into chapters, the first treating of theology, or the existence, attributes, and worship of God, including natural theology; the second, immortality, and the relations of this life to that to come, &c. Truths analogous to either will be grouped accordingly.

A RIGHT THEOLOGY is that chit and tap-root from which whatever appertains to religion emanates, and its grand determiner. All heathenisms grow out of heathenish theologies. Supersede over night, in every heathen mind, the true theology for his wrong, and in the morning every heathenish custom would vanish like the morning dew. Causality governs man as effectually as it does natural phenomena. Men are what their *doctrines* make them in every respect, religion included. Their beliefs control their conduct. They act much as they feel, and feel about as they think. Those who believe in paganism or in Christianity, act, worship, and are accordingly.

BY THE SACREDNESS, and the practical importance, therefore, of a right religious life and practice over a wrong, is the commensurate importance of a right *theology* over a wrong. On no other subject but love are right doctrines a tithe as important to every man, woman, and child who now is or ever will be, as on this.

PERSONAL SELF-INTEREST, therefore, imperiously commands every human being to ascertain with absolute certainty whether or no a SUPREME BEING really does exist, or whether all this divine belief and worship is a myth, a scarecrow, a nursery melody. Religious teachers are morally bound, by a law of mind, to *demonstrate* the truths they teach, such as the existence and attributes of God, immortality, &c., as a condition precedent to all their other teachings, as much as an architect is bound to lay a good foundation before rearing his superstructure. And you and I, O reader, are placed, by the very tenor of our being, under creative bonds, to settle these great problems definitely and finally, each for our own selves; and settle them aright — not on single corner-stones, but on *all*. Each member of the whole human family is under obligations the most sacred, with whatever capacities

he may possess, to ascertain whether a God really does or does not exist; and if ay, to inquire what are His attributes and requirements, and everything concerning Him, as well as what are our relations to Him. None should eat or sleep till they have built up a right *theology*, unless in aid of it; for this concerns our well-being *here*, as well as salvation hereafter; because its results must needs permeate our entire being from its very rootlets, all along up through its trunk and all its branches, clear out to the very tip of every life twig, leaf, and fruit, forever.

PART IV. of this volume DEMONSTRATES the being and the attributes of God, together with all that range of doctrines and requirements which cluster around this fundamental tap-root, truth; such as the supreme importance of worship; its duty, effects, times, the Sabbath, &c.; the true religious doctrines and practices, sectarianism, &c.; natural theology, or the study and worship of God in Nature; and obeying Him by learning and fulfilling His *natural* laws; prayer, its benefits, how it is answered, &c.

THE CONSTITUTION of the human mind certainly does unfold many new and most important ranges of truths touching these and kindred subjects, which this Part discusses, thoroughly and fearlessly. Reader, does not such a work challenge investigation?

IMMORTALITY, with its cognate doctrines, is barely second in point of stirring practical importance and interest.

EXISTS OUR SPIRIT PRINCIPLE, after we "drop this mortal coil"? Do we live after we die? Is the "resurrection" a myth, or a veritable reality? Is death our last? or, is it the vestibule of life immortal? Does eternal existence inhere in humanity?

IF AY, then it *concerns* us to ascertain whether or no this life is any way *related* to the life to come; whether that is affected by this; for if not, then, "whilst we live, let us live," by enjoying the most possible as we go along. Or,

ARE THESE STATES ANTAGONISTIC, so that the enjoyments of either prevent those of the other? Must we do penance in this life by denying and torturing ourselves here, as a means of promoting the joys of that; just as we swallow nauseating medicines to-day in order to feel the better afterwards? If they are antagonistic, is it true human policy to

sacrifice the best interests of this life on the altar of happiness hereafter; or to offer up eternal joys at the shrine of terrestrial pleasures? Or,

IS THAT LIFE BUT A CONTINUATION of this? Are the two mutually so interrelated that whatever promotes our best interests in this, therefore also promotes those of that; and whatever impairs this, thereby likewise impairs that? And if so, then *what* feelings and actions in this are best for both? What kind of life here will promote, and what compromise, our virtues and enjoyments in *both* states? That is, how shall we so live here as to be the happiest¹⁵ and best here *and* hereafter? Are the virtues of this life rewarded, and its vices punished, in that? What conduct here will produce what results there? Will our good deeds here be passed to our credit there, or will they go for nought? be stricken out? for, if accredited and discredited, mortals should pause and ask *what* deeds here will yield the best "premiums" there, because this may proffer a more "*paying* investment" than any terrestrial; as well as what will damage our future prospects? and how much? for some may be unconsciously "treasuring up" "vials of wrath" here, against some "great day of wrath" there.

DOES A HEAVENLY STATE EXIST hereafter? Is this universal human belief in it a fairy-castle myth? an Arabian Night's fancy picture? or is it a veritable reality! a constituent part of the economies of Nature! Part IV. answers YES!

IN WHAT DOES IT CONSIST? In luxurious Turkish harems? in game-stocked Indian hunting-grounds? in Christian singing and shouting hosannas? or in what other things? Whose views of its sacred surroundings are erroneous, and whose right, or nearest correct?

DO BASE LINES of religious truth exist still unsurveyed, yet cognizable to mortals, from which we can correctly calculate the latitudes, longitudes, altitudes, and surroundings of futurity? Or must we forever remain in blissful conjecture; so that the imaginations of each may tickle their deluded fancies with just such prospective joys as the individual taste of each may prefer?

SURELY, SOMETHING TANGIBLE and definite concerning this magnificent divine legacy in reserve for man should be mercifully allowed. And if heavenly mansions and enjoy-

ments really are provided, and in waiting for mortals, are they thrust upon all, indiscriminately, "without money and without price," or conditionally? Or are they proffered to only a favored few, and then on only certain stringent conditions?

AND ON WHAT CONDITIONS, if conditionally, that, knowing them, we may provide ourselves with the requisite moral passports and habiliments, lest at the last we fail to gain admission.

EXISTS THERE A HELL of eternal horrors? And if so, has it any "lake of fire and brimstone"? any "wailings and gnashings of teeth"? any cursings and blasphemies? Or consists it in *our own states*, our characters and feelings? in *what* we are, or in *where* we are?

WHO ARE DOOMED to it? and who not? Or is any salvation possible? or any means of escape permitted to its victims? Shall we be punished forever there for deeds done here? or will our conduct here be allowed to alleviate or aggravate its horrors? Among all the conflicting human opinions on this subject, whose are nearest right, Christian or Pagan, Orthodox or Universalist, Materialists or Spiritualists? Great God! what hast Thou ordained touching all these infinitely momentous problems? Hast Thou revealed them? or hast Thou mercifully hidden them from us, lest dread of impending horrors should mar the pleasures of this life!

IN WHAT BOOK are these time and eternity records kept? and what are their vouchers? What deeds are entered? What credits accompany these, and what charges those? for we may be unconsciously running up accounts here we might not wish to be obliged to "settle up" there. Let us at least make our entries *understandingly*. To doom us to mystified uncertainty, or to mere faith, would seem really cruel. We should be allowed to *know* something *sure* about our future conditions and surroundings — whether we shall eat or fast; and if eat, feed on *what*? whether we shall walk, fly, ride, &c., be passive or active, and, if active, do *what*? Or whether we shall love and marry, or be unsexed altogether? know there our children and friends here, or be oblivious of all terrestrial ties and associations? have any flowers, any poetry, any literature, any public speaking? anything like property, mechanism, &c.?

THESE AND KINDRED PROBLEMS concern us all somewhat more than "prices current," the rise and fall of stocks, &c. So much more so, that it becomes us to ascertain on what *principles* these eternity relations are conducted? What "royalty" is paid on these actions, and what "tariff" rates are established between these two states? It concerns us to study out their "political economies;" for we may perhaps be carelessly sauntering on the edge of a yawning precipice.

Is "ORIGINAL SIN," is "total depravity," a fact or a fiction? And if a terrible, a burning fact, staring us all full in the face forever, it becomes us to inquire whether it has any mitigating conditions, any palliatives, aggravations, or provisional antidotes? or any retributions?

WHAT IS RIGHT, and what wrong, and WHY is right, right, and wrong, wrong? And what rewards and penalties attach to each?

WHAT DUTIES do we owe to our fellow-men? What of the "other cheek," and of like doctrines and practices?

WHAT OF PENITENCE AND PARDON, of conversion and "salvation from the wrath to come?"

Is "PARTIAL EVIL UNIVERSAL GOOD?" or what part does pain play in the divine economies?

THESE QUESTIONS, and a thousand like them, O man, are among the most eventfully important which can ever engross human attention; because there impinge upon them eventualities farther reaching and more potential upon human weal and woe than upon all other issues whatsoever — eventualities so momentous that it becomes us to ascertain for *certain* all about these and kindred subjects. We cannot afford to mislead, or be misled, or mistaken. We want no "trump of uncertain sound." We require ABSOLUTELY CERTAIN KNOWLEDGE, by which we can both live and die; such answers as would satisfy men of science. In short, we require the naked TRUTH.

ALTHOUGH RELIGION has engrossed human attention ever since long before Confucius, Moses, the Parsees, Brahmins, Druids, Christ, Mohammed, Luther, &c., until now, yet there is less and still less prospect of any reliable or generally conceded doctrines or practices. How much has been written, preached, printed, said, thought, and felt respecting mythology, the Bible, Koran, sectarianism, infidelity, &c.?

Yet all is chaotic uncertainty throughout this whole field of religious dogmatism. Men are rushing to and fro, half delirious, with these and kindred inquiries.

Then, is man indeed doomed to religious uncertainty forever? By no means. Exist there any natural moral *formula*, or fundamental principles, by which to test religious doctrines, creeds, and conduct? Aye, most assuredly.

WHERE CAN WE FIND scientific religious truth? positive, exact knowledge? May we expect to find it at all? or must we, like our "illustrious predecessors," grope in the dark ourselves, and mislead all who follow us? And in matters thus infinitely important!

"GOD FORBID." This cannot consist with His universal goodness to all His creatures. He would not leave us benighted in our honest inquiries concerning Himself and His human requirements. Has He made ample provision for supplying all the wants of all His creatures, down even to insect life; and yet neglected to provide for this greatest *human* want? Does He feed the bodies of all He creates, and not feed man's natural yearnings after *religious* truth? No! Never! This would be more cruel than omitting to provide food. We have only to search aright to find as ample a supply of this religious need as of any other. We may then expect to be able to find religious knowledge, and that in abundance, perfect, and *close at hand*. And it is so furnished.

BUT WHERE may we expect to find answers to questions like these? What department of Nature will be likely to furnish us with scientific formulas for the demonstrative solution of these and like problems?

THE CONSTITUTION OF THE HUMAN MIND. — MAN IS THE EPITOME of this entire universe. His bodily constitution embraces, and is expressly adapted to, every single law and fact of the physical universe; while his mental constitution must needs be adapted to all the intellectual and moral laws and facts of universal Nature. The laws of gravity, light, heat, electricity, magnitude, mechanics, &c., govern man physically in common with universal Nature; whilst he is specifically adapted to each, and each to him. As each bone, muscle, and part of the body of every animal, fowl, and fish is expressly fitted to all its other parts, so that, when any one

part is adapted to walk, or swim, or fly, *all* its correlative parts are exactly adapted to that same end; so Nature herself is one great *whole*, not fragmentary. Each and all her parts are expressly adapted to all other parts. As air, earth, water, &c., are specifically adapted both to each other and each to man; so every single thing in Nature is dove-tailed in with every other. Everything in man finds its counterpart in Nature, and everything in Nature has its counterpart in him.³ His moral constitution must therefore of necessity be in as perfect rapport with universal moral truth, as his physical is with natural. All truth accords with all. Man is created in concord with all that is. His moral nature tallies with all the moral laws and facts of the universe. Those have no sense who do not see and admit this *basillar* principle. It will stand the test of ages. All moral and religious truth is founded on, and grows out of it. Some day men will build mainly upon it. This volume is the first philosophical attempt at such philosophico-moral architecture. Its basis is this. Since man is the epitome of all that is, the grand summary of the universe, and since the human mind is the ultimate end of all things,¹⁸ and hence adapted to everything else in nature; therefore, if there is a God, and if man is immortal, the mind of man will be adapted to both. And if it is thus adapted, they of course exist.

MAN'S MORAL CONSTITUTION thus becomes our absolutely reliable exponent of universal moral and religious truth.

IT IS THAT CHIT, from which emanate the tap-root and root-lets, the trunk, bark, branches, twigs, leaves, and fruit of all religious emotions, actions, and doctrines. Whatever it teaches is divine truth, and infinitely obligatory on all, because it thus becomes a fundamental part of our very being; whilst all other teachings are so strongly tinged with the errors and prejudices of their individual authors as to be unreliable.

WHERE CAN WE FIND, then, any reliable and demonstrative *exponent* of this constitution? for without it we are still in moral darkness.

PHRENOLOGY UNFOLDS MAN'S MORAL CONSTITUTION. — This science of minds analyzes those *primary mental Faculties* from which everything moral proceeds. Every one of these Faculties is as specifically adapted to its whole range of moral truth as

the eye is to the whole range of optical principles and facts.² A Faculty of the mind is no minor affair, but is interwoven with its entire department of Nature.³ As the Faculty of vision is adapted to both the structure of the eye and sight, together with all their laws and facts; as Appetite is so adapted to the tongue, mouth, teeth, and natural food of its possessor as to tell just what to eat, when, how much, how, and whatever appertains to its specific alimentation; so each moral Faculty is expressly adapted to its whole department of natural truth. Thus, presupposing that Worship is adapted to adore God, of course it puts man in relation with the Supreme Being, just as his eyes put him in relation with light. And as his eyes tell him all about the laws, facts, and whatever appertains to seeing; so Worship tells him all about the existence, attributes, government, works, and worship of the Almighty. Suppose Spirituality is found to adapt man to a spiritual state of existence after death, of course its full analysis tells him *all about* this future life, what he will do and love there, its general and specific arrangements, and all its incidentals.

SOME SPECIFIC INSTRUMENTALITY must teach this knowledge. As each theological sect has its text-book to teach its students all about its biblical theology; so this natural theology must have its exponents, as well as medium for learning its teachings. Through what medium, then, can we learn what this moral constitution of man teaches respecting religious truths?

EACH MENTAL FACULTY expounds, and enables its possessor to learn, that whole range of moral truth appertaining to its specific department. Thus as the Faculty of Audition, aided by the ears, alone can teach us whatever appertains to hearing; so a worshipping *element* alone can teach us God, and whatever appertains to Him. Without such a Faculty, we could form no more ideas of God than one born blind could of colors. As one without Computation could have no conception of numbers, or the laws and facts of arithmetic, but with it learns them by instinct and without a teacher; so large and normal Worship alone can teach us by intuition all about theology. As a natural born musician needs no musical books or teachers, but learns by inborn inspiration; so large and normal Conscience intuitively teaches what is

right and what wrong. All the laws of nations, as well as all national laws, and especially all their highest final "courts of appeal," are based in this natural fact of eternal right inculcated by Conscience. Blind Tom is a veritable fool in every thing but music, in which he is rendered a veritable genius by his powerful musical Faculty. He has only weak Faculties for learning to read, cipher, plan, &c., and hence could not learn them if he would, and would not if he could. He lacks those mental *entities* which learn them ; but so great, so active is his musical capacity that he can learn the most difficult and complicated pieces of its greatest masters by hearing them only once, and ever after repeat them in the minutest perfection. A drivelling idiot in all else, because all his other intellectual Faculties are weak, yet in music, negro and fool though he is, he surpasses all other modern musicians in the real soul and inspiration of the highest phases of music, — not in culture, but in native musical genius. Jennie Lind, Nilsson, &c., are nowhere in comparison with him. All this is effected by his active musical *capacity*.

EACH MORAL FACULTY, in like manner, teaches man its specific department of moral truth completely and instinctively, without books or teachers, and *all* of them, collectively, cover the *entire horizon* and sphere of all moral truth. Whatever appertains to morals, religion, theology, rights, duties, worship, faith, prayer, depravity, and all religious doctrines and practices, &c., man's moral Nature discloses. All it teaches has not yet been deciphered, any more than all appertaining to astronomy by his astronomical Faculties, yet his moral Nature is *capable* of teaching, and stands ready to teach all. Ages will be required to ferret out all its truths. Some may be dull scholars, and others busied about other things, yet *there it is*, just as California gold was there, a hundred years ago, and will not all be mined for thousands of ages to come ; but there it was, and will be, ready *for* mining.

THE MORAL CONSTITUTION of man thus becomes our final test and touchstone, arbiter and ultimate court of appeal, as to all moral and religious dogmas, practices, and truths whatsoever. Is it not a little singular — a *little*? — is it not amazing and astounding — that this text-book of moral truth has been completely ignored, despite all that has ever been

written and said concerning religion? Paul expressed it, but his commentators and followers seem not to have understood or heeded him, when he said,—

“BECAUSE that which may be known of God, is manifest in them.” “For the invisible things of Him, from the creation of the world, are clearly seen, being understood by the things that are made, *even* His eternal power and Godhead: so that they are without excuse.” “For as many as have sinned without law, shall also perish without law; and as many as have sinned in the law, shall be judged by the law.” “For when the Gentiles, which have not the law, do by nature the things contained in the law, these having not the law, are a law unto themselves.” “Which shew the work of the law written in their hearts, their conscience also bearing witness, and *their* thoughts the meanwhile accusing, or else excusing one another.”

PALEY and the “Bridgewater” authors, where were ye? where Edwards and Scott, Dwight and Clark, Barnes, and other commentators? where are the Finneys and Ballous, Beechers and Channings, Parks and Taylors, Parkers, Emersons, and Tyngs, Bishops, Cardinals, and Popes, not to have discovered this only true moral and religious tribunal and touch-stone, and made a point of it, as did Paul; or rather, not to have *caught it up* from his inspired pen!

PHRENOLOGY dissects every fibre of man's moral Nature, and thus unfolds every law and doctrine, every principle and requirement of this highest moral code of the universe! And it puts all upon the same *scientific*, and therefore positive, basis of actual and tangible *facts*, upon which astronomy places all astronomical truths, and chemistry all chemical. It leaves nothing at loose ends, and renders all both *demonstratively* certain, and just as plain as the noonday sunshine of eternal truth can render it; enveloped in no mists, and with no dark *terra incognita* spots upon its clear horizon. It does this so *clearly* that man cannot fail to perceive and adopt the religious doctrines it teaches, and practise the duties it requires. Rid any mind of preconceived prejudices, and in one year will the truth of Phrenology thoroughly renovate that mind, and purify that life. On its teachings we may rely as implicitly as on the rising of the sun to-morrow morning. No mathematical demonstration is any more demonstrative than are its teachings; for both are sure, because scientific.

RELIGIOUS GUIDANCE, then, is neither far off nor expensive,

but is *within* us, and of us; and just as cheap as *consulting our own Natures*. We need no religious teachers or books, and yet may employ their aid if we please, just as we may employ arithmetical, grammatical, and other teachers. Yet neither with nor without them can we learn anything except *through our own Faculties*.

HO! ALL YE who would learn moral and religious truth, follow the beacon lights hoisted by this mental exposition of the moral constitution of man! It will show what harmonizes and what conflicts with this moral tribunal, and therefore with eternal and universal moral and religious truth! It is the talisman of the whole race in all matters appertaining to religious knowledge and practice. Obeying its teachings will render us just as perfect in thought, word, and deed, as we are in primitive constitution. It will banish sectarianism, by throwing a flood of light upon this whole department of truth!

GRACIOUS GOD! Hast Thou indeed placed *such* a treasure within mortal reach! and lighted up this whole horizon of moral truth with a moral luminary thus glorious! Then let lovers of religious *first principles*, having buried pre-conceived dogmas, proceed cautiously to unravel the constituent threads of man's moral Nature, and, like sincere inquirers after truth, decipher therefrom those great moral problems of God and immortality, together with cognate doctrines already propounded.

DANCE FOR VERY JOY, and sing "hosannas in the highest," that our Nature furnishes us with such a divine Preceptor of a right religious belief and life, and then *consult* it. Was it made to be overlooked or overruled? Since a right theology is so immeasurably important, and its Teacher is always "on call," are we not sacredly *bound* to catechize it, as much as to eat or breathe? In slighting it we slight its *Author*, and exclude His moral sun from our vision. Personal self-love, the dignity and value of truth, and all human interests, demand that we avail ourselves of the teachings of this science. Our first *duty* is to thus learn from the structure of our own minds whatsoever religious lessons and doctrines it teaches. Such a means of grace and piety we have no right to ignore. A right phrenological theology thus becomes our bounden duty.

OUR OWN BEST INTERESTS thus put us under solemn moral bonds to *ascertain* the true theology from all available sources; yet what source as plain, as available, as easily and perpetually accessible, as our own inner *selves*? Many religious people forget how complete, how readable, how reliable a Bible all have within themselves. And we are all guilty before God and the bar of our own consciences, if we do not keep this sacred volume of divine truth and demonstrative theology always open before us, and always *study* it. To open it up to the comprehension of individuals and communities, simples and savans, is the distinctive object and mission of Part IV. of this work. Whilst it would not hinder any from learning all they can from all other sources possible, it would disclose a new — new? no, but — a natural treatise on theology as old as the creation of man, ay, as the primal laws of things!

CHRISTIANS AND INFIDELS, and all who entertain conflicting religious tenets, will here find much common ground, on which all can stand together. Men differ on religion much less than they think they do. The Author writes solely to discharge a sacred *duty* he owes alike to the science he teaches, and to the cause of religious progress; leaving all at the door of the unbiassed common sense and conscience of mankind, and hoping he thoroughly comprehends the dignity, the magnitude, and the momentous eventualities involved in his self-assigned task. Those who derive from it any new religious light and truth; any dissuasions from error and evil, or persuasions to good; any promptings to a higher, truer divine love and worship, or to purer or more rational religious doctrines or practices, may thank God for that PHRENOLOGY which teaches them; and then recommend to others what thus improves their own theology and life; but let its opponents "*beware*, lest they fight against" *eternal truth*. It leaves existing dogmas about where it finds them, whilst it asks the human mind what *it* teaches respecting the DIVINE EXISTENCE, His attributes, government, laws, requirements, worship, &c.; and also respecting IMMORTALITY, both as a fact, and as it stands related to this life — whether we ourselves here, will be our own veritable selves there; whether parents and children, those loving and beloved here, will identify and love each other there — the conditions and sur-

roundings of the life to come, &c. It claims to disclose the status, the employments, &c., of futurity ; and to answer all that range of questions heretofore propounded.

READER, is a volume thus conceived, and purporting to discuss this whole round of religions truth from *such* a standpoint, worthy of sufficient examination to ascertain its intrinsic merits ? Man never wrote on a subject more pregnant with human happiness, virtue, and moral elevation ! Reader, you are commanded from on high to learn, and heed, and practise its teachings.

12. — INTELLECT, MEMORY, AND THEIR CULTURE ; EDUCATION, &c.

MIND RULES. REASON is man's constitutional guide and governor in all things. Those only may justly exult who instal *sense* as their "lord and master." MENTAL DISCIPLINE is man's highest attainment ; because it crowns all others. "KNOWLEDGE is power" to accomplish and enjoy. MEMORY is one of our most valuable possessions. What *rent* could lawyers, business men, scholars, everybody will afford to pay to be enabled to recall and apply *all they ever knew* ! Yet even all this is possible. Reader, how many of *your* daily losses, consequent on a poor memory, would a good one convert into gains ? Reason and sense are still more valuable, while learning, eloquence, and the other intellectual endowments are scarcely less so.

INTELLECTUAL EDUCATION is therefore commensurately valuable. By the worth of intellect is that of its improvement. Men pay liberally for it, yet not in proportion to its relative value. He who is well educated, though poor, is in reality vastly richer than an ignorant millionaire. It takes but little mental culture to outweigh piles of gold ; and stacks of greenbacks. How much is a good *mind* worth over a poor one ! It will take an expert figurist to answer. "Let me make a nation's poetry, and I care nought who makes their laws." A *king* may well envy an orator. No words can adequately admeasure the value of intellectual attainments.

RIGHT EDUCATIONAL PRINCIPLES are equally valuable ; and wrong ones injurious. Mankind need only four things to become absolutely perfect — right doctrines and practices touching HEALTH, MORALS, EDUCATION, and LOVE, including the sexual and family relations, the first three of which are un-

folded in this volume, and the last in "Sexual Science." Rectifying these four, will rectify all else human! and rectifying education will rectify the other three; because teaching mankind the natural laws, and the consequences of their obedience and infraction, enlists their very self-interests in living right lives; since this alone makes them the happiest. This is precisely what a right education would effect.

MODERN EDUCATION IS EMPIRICAL. What is now called education, is a misnomer, because wholly devoid of a right educational *basis*. It has no correct *first principles* to guide it. To educate or *bring out* the primal Faculties of the human mind is its task. It can create no powers, but only give *action* to those already created. Of course to give this action, it must adapt itself to these primal intellectual Faculties. This involves their correct *analysis*. All correct practices must grow out of right fundamental *principles*. These are precisely what modern education lacks. It is, and must remain, merely experimental, until it obtains a correct *analysis* of those intellectual *powers* it essays to educate; and then so adapts itself to them as to both prompt them to action, and then feed them.

TO PARENTS a right educational philosophy is also immeasurably important. They annually expend millions of money, along with untold anxieties, in scholastic education, without any guiding *first principles*; often even killing their darlings by a well-meant but ill-directed education; and actually making them *worse* while attempting to make them better. All parents need some text-book to teach them how to eradicate the faults and develop the virtues of those thus near and dear to them, as well as how to make them the best possible.

SELF-EDUCATION must also proceed upon this same basis. It is soon to become as all-absorbing a human interest as fashion and money-making now are. Neither workmen, nor tradesmen, nor fashionables are always to remain as they usually now are — ignoramuses. This workingmen's movement is to eventuate in their *leisure and means*, and these will finally bring, not sensualism nor idleness, but *mental culture*. Merchants, too, instead of spending *all* their time and energies in rolling up wealth, after making themselves and families measureably safe against want, will devote a part of each day to study. Fashionables, too, instead of alter-

nately snivelling and giggling over the last love story, and wasting their life-force on dress and novel reading, will *educate their minds*, instead of dressing their bodies, and titillating their feelings. In short —

INTELLECTUAL CULTURE is destined to become the *paramount* pursuit of mankind ; because the human *understanding* ranks and controls all else human, religion not excepted.

TO INSPIRE its readers to spend more of their precious time, money, and life-force in personal education, and then to *show them how* to thus educate themselves ; as well as to unfold Nature's true educational FIRST PRINCIPLES, is the specific office of Part V. of this work. And it really does go to the *bottom* of this whole subject. Those who follow it will find their minds improved *every day* over its predecessor.

ALL EDUCATORS, teachers, school committee men, tutors, collegiate professors, Faculties, Presidents, and Trustees, as well as doting parents, will find in this part the means of advancing their pupils *several hundred per cent.* faster than is possible under any and all the educational systems now in vogue. Modern education needs to be *remodelled*, in accordance with those laws of mind and that *intellectual philosophy* here unfolded.

13. — THE SCIENCE OF HUMAN LIFE AND PROGRESS.

LIFE HAS ITS SCIENCE in general, in detail. Infinite Wisdom has placed all that is under the domain of eternal natural laws.¹⁹ Sun, moon, and stars ; earth, fire, wind, and water ; all vegetable, all animals, all human beings are subjected to the marshalship of these laws. No part of anything is left at loose ends, or ungoverned by them. Head and body, heart and lungs, stomach and liver, bones and muscles, limbs and trunk, fingers and little finger nails, nerves and brain, mind and soul, humanity throughout all its aspects, public and private, are under divine martial laws. These govern everything “in the heavens above, earth beneath, and waters under the earth.” And reduce all thus governed to an *exact natural science*.

THE HUMAN MIND is the objective point, the ultimate end of all this paraphernalia of the natural laws.¹⁸ Sun rolls and shines, winds and tides rise and fall, showers and rivers de-

scend, vegetables and grains grow, for man — the special pet and darling of the Almighty Maker of them all!

MAN'S MIND is the objective point, the *Ultima Thule* of whatever appertains to man. All surrounding Nature, all his bodily organs and laws, are ordained to do obedience to his *spirit* principle. All other laws converge in this their focal centre. All societary customs and laws are its creatures, "got up" at its bidding, and pages to do its errands. In short —

THE HUMAN mind is the grand summary of all things!

THE ANALYSIS of this mind must needs therefore teach all truths whatsoever appertaining any way to man.

PART VI. is devoted to this SCIENCE OF EXISTENCE — to those great *lessons of living* taught and enforced by this volume. It will apply all to a *right human life*, individual and collective, here and hereafter, now and forever!

PUBLIC PROGRESS AND REFORM are the two watchwords of mankind. The amount of both attained "within the memory of our oldest inhabitants," is really amazing. And yet, both are still in comparative infancy. The amount remaining to be achieved far exceeds that thus far attained.

A PUBLIC TRIBUNAL AND STANDARD of what *is* reformatory and progressive; some *beau ideal* of human perfection, requires to be furnished for human aspiration and guidance. Phrenology furnishes it by unfolding and analyzing man as he came forth pure and perfect from under the formative hand of Infinite, Perfection; thereby showing all persons, all communities, just wherein, and how far they conform to, and depart from this tribunal of human perfection, as well as the pathway of return.

AS A PUBLIC MORAL TEACHER it has no competitor, no equal. And this volume essays to apply this science in this direction.

HUMAN INSTITUTIONS have grown up like "Topsy," without father, mother, or teachers. And the old foggy element in man has perpetuated them, errors included, from time immemorial. It is high time society were *laid out on the square*; that its institutions were conformed to *itself*, so that they truly represent its nature; and Part VI. will show *what* things are wrong, and why; and how to shape them to primeval human nature. In short —

HUMANITY HAS ITS SCIENCE. Every individual part of it has its science ; and this book aims to cover the *whole* science of human life. The first line of its title expresses its thought — “HUMAN SCIENCE.” It gives the SCIENCE of formation and nutrition, the *science* of eating and breathing, and sleeping, and bathing, and health ; the *science* of getting well, and staying well, and keeping those around us healthy ; the *science* of the Temperaments and organism generally ; the *science* of the general structure of the human mind, and of each of its constituent parts and Faculties ; the *science* of man’s selfish Nature ; the *science* of God and immortality, of morals and religion ; the *science* of intellect, education, and society ; in short *human science throughout*.

MENTAL PHILOSOPHY, in short, is man’s one great public and private guide, throughout all climes and times, and promotive of every single interest and enjoyment of every single member of the whole family of man ; besides being a study more delightful as well as useful, than any other, than all others combined ; because it involves and evolves them all. Phrenology unfolds it, and this volume applies it to all the varied interests of humanity ! An end how noble ! A purpose how august ! A work how incomparably useful ! even if imperfectly executed.

READER, does *such* a subject, *thus* treated, deserve patronage ? Is it calculated to inspire and guide to a truer, higher, nobler human life — that most exalted end attainable by man ! Let its perusal — and its complete understanding requires reperusal — attest whether it “fills this bill.” At least, for comprehensiveness and vastness of scope, and for inherent interest and practical value of *subject matter*, IT HAS NO EQUAL.

HUMAN SCIENCE.

PART I.

ORGANISM.

CHAPTER I.

THE FUNDAMENTAL PRINCIPLES OF LIFE.

SECTION I.

VALUE AND IMPROVEMENT OF LIFE.

14. — APOSTROPHE TO LIFE, AND VALUE OF ITS FUNCTIONS.

O LIFE! THOU OFFSPRING OF DIVINITY! His greatest production! Summary of all His attributes and works, and ultimate of all that is! Compendium of marvels, and creator of all our capacities and enjoyments! Omnipotence alone can create or fathom thee, and only eternity can duly admeasure thy value!

SUPPOSE a human being could be ushered, like the fabled Minerva from the brain of Jupiter, instantaneously into the fullest possible possession of every human capacity, and suppose this exalted intellect could survey, as with one omniscient glance, this magnificent universe, with all its appurtenances, what must needs be his first and most ecstatic mental operation? Would he not literally exult, with rapture inexpressible, in the mere consciousness of LIFE, — in the very act and fact of self-existence!

TO BE, or *not* to be, — how infinite the difference! How much better to be a dog, or fly, than nothing! Then what exultant rapture should all *human* beings experience in possessing a body thus perfect, emotions so varied and intense, intellectual capacities thus numerous and powerful, and a soul endowed with im-

mortality ! Yet how few, among all those myriads on whom God graciously confers life, at all appreciate this divine boon, or realize what it is to live ? or even what to put forth any *one* of those multifarious functions in which it consists ?

SIGHT ! How wonderful a capacity ! How precious a gift ! Who among all that see, at all realize what it is to be able to discern objects at a distance so inconceivably great that it would take the lightning's flash thousands of years to come from them to us ? some a hundred million times larger than our whole earth, others infinitesimally small ; and myriads at a single glance ! And all how perfectly ! What an inconceivable amount of knowledge and pleasure we derive therefrom ! How marvellous, how priceless are the gifts of hearing, tasting, feeling, breathing, moving, and all our other physical functions ! THE INTRINSIC WORTH of every bone, and muscle, and even finger-nail, words can but poorly tell. How much could a beautiful maiden well afford to pay for the restoration of a lost finger ? A poor soldier, by an unlucky shot, lost both his eyes ; what "pension" could make good his loss ?

OUR AFFECTIONS, conjugal, parental, filial, and family, how precious ! How valuable and necessary are our instincts and passions, Alimentation, Self-Preservation, Ambition, Persistence, and the like ? Yet those intellectual capacities which tell us all about Nature, her facts and works, about Astronomy, Geology, Anatomy, Phrenology, &c., are more so.

REASON, that highest intellectual capacity which discovers her first principles, fundamental truths and philosophies, is still more exalted ! How great is his loss who loses his *senses* ! But most exalted, because highest of all, are those *moral* attributes of justice, benevolence, virtue, hope, and capacity to perceive, adore and love the omnipotent Creator of this stupendous universe !

BEHOLD IMMORTALITY crowning them all ! We are capable of boundless expansion, as well as of perpetual reimprovement in all our powers and pleasures forever ! Verily life is the emanation of divinity Himself ! and the product of the highest exercise of all His capacities !

OUR FATHER AND MOTHER deserve veneration, love, and honor for entailing and establishing a gift as infinitely precious as

human life, together with all its powers to enjoy and accomplish forever! Filial piety is the first of virtues, as neglect of parents is the most heinous of sins.

LOVE AND WORSHIP OF OUR CELESTIAL FATHER should, however, as far transcend our love and duty to our terrestrial parents, as what He has done and can do for us surpasses all they have done.

O THOU ALMIGHTY INVENTOR AND EXECUTOR of life in all its forms, with all its measureless capacities and functions, we fall prostrate before Thee, and pour forth one overflowing river of gratitude, love, and praise for a benefaction thus infinitely great and glorious, such as Thou alone couldst make; and as far above any which kings or princes could bestow, as heaven is above earth, Thy throne above theirs, and Thou above them!

WE PRAY THEE accept this humble consecration of our life throughout all its parts and functions—its bones, muscles, nerves, organs, sight, hearing, taste, instincts, passions, affections, memory, language, reason, spirit principle, souls, and entire being—to Thee. Sanctify Thou them and us to Thee and Thy service. Grant that our every Faculty and function may be presented “a living sacrifice, holy, acceptable unto Thee,” and perpetually offered up on the altar of Thine eternal will and natural ordinances! And aid us in this our attempt to study, that we may obey, its laws and teachings, and make the utmost possible out of all its Faculties and functions!

O, YE RECIPIENTS OF LIFE! with what exultant rapture should ye clutch and prize your being, and for it “praise God forever!” Compared with it, all else is as “vanity of vanities.” None inherit as vast a fortune as those endowed with abundance of life-force; yet none are quite as poor or utterly destitute as those who possess but little. Those princes are pitiaibly poor whose life-functions are feeble; while those peasants are immeasurably rich in whom they superabound. And those grow rich the fastest who enhance, but those grow poor the fastest who diminish it; while none are as foolishly and wickedly extravagant as those who squander this element; nor any as wise and good as those who husband it.

15. — THE ENJOYMENTS OF LIFE ADMEASURE ITS VALUE.

HAPPINESS is the constitutional and only legitimate product of every organ of the body, every Faculty of the mind, every element of our being. To make or to be happy is the natural adaptation of sun, earth, air, water, and all that inhabit either. To what else are all our bones, joints, and muscles adapted, both in their functions themselves, and in all that labor and locomotion which they were devised to accomplish? What but exquisite enjoyment is the constitutional product both of the mere act of seeing, and of that ceaseless round of pleasures and fund of information, as well as range of material for thought, feeling, and happiness furnished thereby! Pleasure in quaffing luxuriantly the fresh air of heaven, and then in expending the vitality thus obtained, is the only natural function of respiration. For what was the stomach created, but to give us pleasure both in eating and digesting, and in all their constitutional effects! To what are brain and nerves adapted, but expressly to furnish us an inexhaustible range of intellectual and moral enjoyments? And thus of every other physical organ and function.

EACH MENTAL FACULTY singly, and all combined, have the same constitutional adaptation and object. Kindness was created to bless the needy, pour the oil of consolation into the wounded soul, avoid causing pain, and adorn human nature, as well as to render the giver himself also happy; it being still "more blessed to give than to receive." Parental Love is adapted to render parents themselves happy in providing for and educating darling and dependent infancy, and lovely childhood also happy in receiving the bounties thus lavishly bestowed by Parental Love. Beauty, exercised in harmony with its primitive function, enjoys a perpetual feast in contemplating the beautiful and perfect in Nature, as well as in refining the manners and purifying the feelings of its possessor, and elevating and gracing the entire character and conduct. Acquisition was designed to give pleasure both in acquiring property and the necessities and comforts of life, and in providing Appetite with food, Kindness with the means of doing good, Caution with the requisites for shelter and safety, the Social Affections with family comforts, Patriotism with a good home and country, Intellect with books and the means of

prosecuting scientific researches, and all the Faculties respectively with the means of their gratification. Appetite, besides yielding much gustatory pleasure, nourishes body and brain, and thereby enables them to execute and enjoy the various functions of our nature. Causality experiences a rich harvest of happiness in studying the laws and operations of Nature, and adapting ways and means to ends. Expression, normally exercised, affords a world of pleasure in the mere act of communicating, besides that exhaustless source of happiness experienced in the interchange of knowledge, ideas, motives, feelings, &c., as well as in reading, hearing sermons, lectures, and the like, and in communing with one another in ways innumerable. How vast the amount of happiness all kinds of Memory are capable of conferring on man! How exalted the enjoyments we can experience in worshipping God, and in all those holy emotions and purifying influences prayer is adapted to diffuse throughout the soul! And thus of Friendship, Constancy, Ambition, Perseverance, Hope, the moral feelings, and every other Faculty of the human mind! Does the needle point to its pole more universally than every physical organ, every mental Faculty, every element and function of man, points to HAPPINESS — ALL happiness, pure, unalloyed, AND NOTHING ELSE — as its only constitutional product! This is, moreover, THE MASTER INSTINCT alike of every human being, every animal, even every insect. Indeed it is the focal centre both of our own being, and of all that is!

HAPPINESS, therefore, becomes the standard scales for weighing and measuring the values, absolute and relative, of all things whatsoever. That is worth the most to any one which makes him the happiest. All seek money, dress, food, everything, solely for the *enjoyments* expected therein, and pay most dearly for those things wherefrom the most is anticipated. If one investment of only a dollar yields more pleasure than another of millions, it is worth the most to the investor. Things prized beyond measure by one, because sources of happiness, as books to the intelligent, beauties to the refined, &c., are valueless to those who derive no pleasure from them, as books and beauties to the savage. This house, horse, &c., is worth ten or a hundred times more than that, and either than a fly, in proportion to their functional power to be and to make happy. The real value of

any given thing is measured by the amount of net enjoyment actually derivable from it. How much, then, O ye who live, is your existence worth to you? Well may a "man give *all that he hath* for his life," for without it, what is all else worth to him? What are houses, lands, goods, bonds, diamonds, whatever we deem valuable, to the dead?

THE MORE LIFE-FORCE one possesses, other things being equal, the more he enjoys, and therefore the greater the value of whatever he has. A philosopher is more valuable to himself and others than a thousand fools, because he is endowed with more life-entity, and that better in quality; whilst those possessed of only a half or a tenth as much life, can enjoy therefrom only one half or one tenth as much. To attempt an approximate estimation of the value of life from a few of its functions:—

SLEEP, how valuable to those who are restless, and literally perishing for want of it, yet unable to obtain it. How much would such give for one night's good, sound, sweet, soul-and-body-refreshing sleep! Then how much is this sleeping *capacity* worth!

THE STARVING would pay hundreds of dollars for one good hearty meal, and get their money's worth; then how much more is a good stomach worth than a poor one? "A guinea for your appetite," said a millionaire to a hearty lad; but the boy's appetite was worth more than the millionaire's gold. How much enjoyment in the sum total have you ever taken, can you ever take, in locomotion? And in all your other physical functions? Then how much are they all worth!

MERELY ANIMAL pleasures however do not constitute our highest life-enjoyments. Cicero well observes, "mental happiness greatly exceeds physical." Then what is the grand aggregate of all your intellectual, moral, and emotional enjoyments, added to all your physical? To all the pleasures of adolescence, superadd the intense ecstasies of first love, conjugality, children, home, and neighborhood ties; and to both the half-frenzied delight experienced in prosecuting your business, including all your speculations and fairy castle-building, your ambitious and other aspirations, and crown the whole with the gratification of all your tastes, desires, religious emotions, hopes of heaven — but already their sum total beggars even conception, much more description.

Life is one ceaseless round of ever-fresh delights, so many and so common that we forget to note them. Yet is even this all?

FUTURE enjoyments infinitely exceed past! How much pleasure do you *expect* yet to take to-day, to-morrow, and in all the other days of your whole life; in struggling for all the objects you may yet pursue; in both making money and in using it; in your family relations; in worship; in study; and in all the miscellaneous functions of your being, till you die? Verily, existence is no trifle. All that infinite Power, Wisdom, and Goodness could do to impart value to it, He has done; and yet who derive from it more than the merest fraction of that happiness it is capable of yielding?

ITS INHERENT value is measured by all the pleasures we possibly *could* obtain from it, not merely by what we do derive. None fully appreciate the enjoyments taken in eating; and yet who receive from it a hundredth part as much as they could take if their digestion were perfect and taste exquisite, and always regaled with just what they relish best?

HOW MUCH MORE pleasure could you *have* taken in your first love, than you actually *did* take? Can the fledgling soar highest or furthest at its *first* flight? Much as you actually did enjoy, you derived from it but a tithe of the rapturous ecstasy you know you were capable of experiencing. Your love barely began to be developed before it was either blighted, or else turned into downright disgust. Suppose, instead, you had known, from the first, just how to perfect this element; had chosen the very one above all others precisely adapted to your specific tastes and wants, and each had done just what was requisite to completely develop the other's affections, besides forestalling all discordant feelings; had superadded to it all the exquisite emotions of just your required number of beau-ideal children; had possessed home and surroundings precisely to your tastes, and neighbors exactly to your liking; had been honored and trusted among men; possessed enough, but not too much, of this world's goods; and completely developed and gratified every single want, desire, and capacity of your entire being, all the way along up from childhood; enjoyed all the books, teachers, educational and literary advantages, lectures, conversation, &c., requisite for your fullest intellectual cultivation; been an honored member of your beau-ideal church;

and every life-moment had been crowded with all those varied delights of which your entire being, fully developed, is capable, and reincreasing with years, how much could you *then* have enjoyed all through life!

"Ah, if we could only always *remain* young! But palsied old age, and that 'grim monster,' SPOIL this beautiful picture. What we enjoy at all, must be enjoyed before seventy. After that, life is only dreary December."

YOU MISTAKE! Hear that cherub child shout with merry glee! Why should not age *increase* his enjoyments *pari passu* with his capacities? How happy is that tottering child *in* tottering! Yet is it not afterwards immeasurably happier in running and gambolling? and happier still in athletic sports? and yet far more so in the intellectual and moral pleasures of life's meridian? and in its afternoon and evening than noonday? Some elderly people grow happier as they grow older; then why is not this possible to all? Life's decline, in its calm, quiet, serene enjoyments and "dignified ease," can be happier than even the stalwart strugglings of mature years; and these than childhood.

BEYOND QUESTION, we are all adapted to be just as happy as we can endure to be, happy almost to bursting, at least to overflowing, throughout every department of our entire beings, all the way along up from infancy through adolescence, maturity, and old age, clear up — not down — to death. No imagination can even begin duly to estimate either the number, the variety, or the extent of life's enjoyments possible to all. Possible? Ay, inherent, and constitutional. In what a perfect paradise does man's primitive constitution place him!

ALL THIS LIFE'S pleasures, actual and possible, however, compared with those of the life to come, are but as an atom compared with a mountain. Immortality is no *ignis fatuus*. Part IV. proves it to be an immortal reality, a necessary component of being; and that the powers and enjoyments of the world to come as immeasurably surpass all those of this life, as the ocean exceeds the rill!

But why mock our subject by these futile attempts to admeasure the actual and possible pleasures, and therefore value, of existence? Only eternal *experience* can do it justice. Therefore, —

THE PURSUIT OF HAPPINESS, that first tap-root instinct of universal life, in which all other instincts originate, should constitute the paramount *life-study* and *object* of every human being. How can I make myself and others the happiest? is the sole problem of existence. Those lead the truest and best lives who enjoy the most. Our duties and pleasures are identical. Those who enjoy the most please their Creator the best, because they best fulfil the specific mission of their creation. The Epicurean philosophy is the true one, — "Whilst we live, let us live." Let us secure the fullest gratification of all our Faculties, which God created only to be gratified, but not to be denied. Let us make every new day, hour, and moment of life one ceaseless round of perpetual delight.

MAKE CHILDREN just as happy as possible; for making them happy develops their being, while whatever causes them misery injures their life-principle.²⁷ Let young people be allowed to make themselves just as happy as possible; because for this alone were they created. God delights to see all His creatures enjoy themselves.

SELF-DENIAL or self-crucifixion, though a pious doctrine, outrages every instinct, animal and human, and thwarts every primitive end and adaptation, of universal being. It had its origin in sacrificing human beings to appease the supposed wrath of infuriated Jupiter, and later, in animal sacrifices, of which this is the last relic, and unworthy of enlightened human belief. It is, indeed, barbarous. Let those who advocate it duly consider the god they worship.

"But this revolting doctrine of self-indulgence contravenes all discipline of ourselves and others, all restraints whatsoever, even all 'law and order,' and throws wide open all the floodgates of all the passions and appetites; besides paying a premium to unbridled lust, and unmitigated selfishness. A worse doctrine, one more contrary to religion and public and private morality and good, could hardly be promulgated."

INDEED! Then has God made a great creative *mistake*? Has He egregiously blundered in creating this "master passion" for happiness, only to oblige each and all to "crush it out!" Not He. Must we war forever with this basillar principle and instinct of life? this corner-stone, in fact, this foundation of all existence! We shall yet make qualifications which completely obvi-

ate this seemingly plausible objection.¹⁹ Suffice it here to give this general answer:—

"ALL WRONG EXERCISE of our passions and appetites causes misery.²¹ Only their *right* exercise makes us happy.¹⁹ Thus, not only gluttony, drunkenness, &c., but *all* wrong alimentary habits impair future gustatory enjoyments. The greatest enjoyment of Appetite is obtainable only by obeying its natural laws. The highest, most exquisite, and only true amatory enjoyments are to be found, not in unbridled sensualities, but in obeying the sexual laws of *one* love in marriage, as shown in 'Sexual Science.'^{417 to 424.} All the other appetites and passions are governed by this same law. Virtue is enjoyment, and enjoyment is virtue. We should not seek the pleasures of to-day, but of a lifetime, and that of life *eternal*. And yet those same conditions which cause the highest happiness of to-day, also cause those of all after existence. Yet after doctrines specifically refute this objection."

16.—IMPROVING LIFE OUR PARAMOUNT DUTY AND SELF-INTEREST.

THE GREAT INQUIRY of old and young, each and all, from the cradle to the grave — *forever* — should therefore be, how can I make the uttermost *possible* out of a behest thus infinitely precious? How can I turn it to the best account? How derive from it all those rich and varied enjoyments of which it renders me capable? How so "invest" it as to obtain from it the greatest "income" of pleasure possible? Not only is no "income tax" levied on this income, but Nature rewards its improvement with the richest bounty possible to receive. Only one life-lease is granted us. It can have no substitute. This lost, our *all* is lost. Hence man never propounded, never answered any other question a thousandth part as practically important as — How can we derive the very utmost possible enjoyment from this life-entity, and escape all its miseries?

WE INSTINCTIVELY ENHANCE whatever we consider valuable. As in proportion to our estimate of property, reputation, &c., we seek to augment them; so should not our utmost exertions be directed towards promoting this life-force, that is, towards self-development? The value of life inheres in its functions, individually and collectively. Your eyes are the more or the less valu-

able in exact proportion to the amount of vision they put forth. If they could see as well again as now, they would be worth twice as much; or, if your visual powers should be diminished one half, their value would be equally lessened.

How MUCH, then, is your power to see worth? Ten thousand dollars? Would you be wise to accept that sum, on condition that you remain in total darkness till you die? Of course doubling the vigor and power of every individual function of the body doubles their value.

EVERY MENTAL capacity is governed by this law. How much would pay you to let your memory be blotted out forever? What sum of money could give you as much pleasure as does your power of recollection? Surely not ten times ten thousand dollars. Then doubling its efficiency would double its value, and make it worth more than two hundred thousand dollars. How much does that girl lose who loses her *virtue*, her moral purity, or he who loses a clear conscience for life? How much is your sense worth? How much could you afford to take, and be deprived of it forever? Dollars furnish but a miserably poor measure of the value of any of our mental capacities.

THEN, COLLECTIVELY, how much are they all worth? How much is each, how much are all of your mental capacities and virtues worth taken together? Set your own estimate; and you cannot overrate either or all. A million pounds? Would you drive a sharp bargain by agreeing, on receipt of a million, to *cease to be*? Pray how much good would your million do you!

YOUR CHILD is worth how much to *you*? to its other parent? to grandparents, relatives, and mankind generally? Then how much to *its own self*? The fact is, the value of money, of diamonds, of every terrestrial good, is as nothing in comparison with that of life and its functions. All other values sink into insignificance when compared to the superlative value derived from improving each and all our life-functions.

ETERNITY awaits us. And all improvement, all deterioration, of ourselves in this life are translated with us to the other side of death, besides being immeasurably magnified thereby. Thus, a given amount of self-culture or self-deterioration here, becomes the means of a hundred or a thousand *fold* greater there. Of course this law applies with redoubled force to children and youth.

THE IMPROVEMENT of this life-entity, then, by whatever is sacred in life, death, and eternity, should be our one great paramount work.

OUR FIRST DUTY to God and man centres in this same self-development. As children honor their parents the most effectually by perfecting themselves; so we "glorify our Father in heaven" in proportion as we purify and perfect our own selves.

OUR FELLOW-MEN are likewise benefited more effectually by obviating our own faults, and improving our own excellences, than by anything else we can possibly do to or for them. In fine, SELF-INTEREST, duty to God and man, love of happiness,¹⁵ and all the great motives of existence, inspire the eventful inquiry, *How can this life-entity be improved?* Nature answers, "*By fulfilling its conditions.*" Then in what do they consist?

17. — ENJOYING ALL WE CAN AS WE GO ALONG.

"GIVE US DAY BY DAY our daily bread." The passing instant is our only enjoyable one. *Now* is the only time the sun shines, and we live, or can possibly be happy. Even anticipated pleasures are experienced solely during the *passing* moment; and but repeat future pleasure. Let a personal anecdote illustrate:—

ON A HUDSON RIVER STEAMBOAT, in 1848, the adjournment of a convention at Newburg brought an unusual rush of passengers on board, and as dinner was served immediately on leaving the dock, there were twice too many diners for the dinner served. Seated at my side was a rich, talented epicure, who reproved the steward, as the tickets were collected, on account of the short dinner. The steward handed back his dinner ticket, confessing his improvidence, and giving as its cause the very great and unexpected rush of passengers just as dinner was announced. This high liver rejoined, —

"THAT EXCUSE is good for *you*, but worthless to me; for it utterly fails to satisfy my hunger. I care nought for the *price* of my dinner, for dollars are plenty, but dinners are scarce, and I feel the loss of this one seriously."

"But you have been up and down on my boats hundreds of times before, yet never found me short; and if you go up and down hundreds of times more you'll every time find me flush, for I'm bound always to have a surplus."

"GRANTED, ALL: yet my having a good dinner every day *heretofore* AND *hereafter* can never make up for to-day's lost one. I can enjoy *but*

one dinner per day, all my life; so that the loss of this one can never be made good, even though I have a good dinner every other day of my whole life!"

THAT ANSWER deserves considering, and applying to all the breakfasts and suppers, days and nights, hours and seconds, of life, as well as to all the seasons of the year, and the recurring pleasures of life. Whatever cuts short the enjoyments of any single day or hour of life, especially whatever inflicts pain, causes an *irreparable life loss!* which can *never* be made good, even by enjoying every other day and hour of existence.

TO LIFE'S SEASONS this to-day enjoying principle applies with greatly augmented force. *They come but once;* therefore, make the most possible of each; the more so because the full fruition of each is indispensable to that of all its successors.

ONE CHILDHOOD, yet only one, is allotted to each human being; and its perfection is indispensable to that of every subsequent period of life. Whatever mars it, mars all the subsequent powers and pleasures of this life. A dwarfed, a sickly, an unhappy childhood blights the entire after life. O parents, be entreated not to mar this bright, sunny season of your darling tottlers by chastisements, denials, &c., unless for their future good. Make them just as happy as possible, all the way along up during every infantile day and hour.

ADOLESCENCE comes but once. Let that *girl romp*. She has but one tom-boy season of life: let her make the most possible of that one; for it can never again come back to her! That one lost, its loss is irreparable. She can never go back to it, and never afterwards become, in body or mind, what its full fruition would have rendered her. A spring frost has nipped her early blossoms and twigs, thus forestalling their summer growth and fall fruits. And let that boy *be a boy while a boy*; for the more a boy he is during boyhood, the more of a man he will become during his entire manhood.

LET YOUNG PEOPLE be young while young, and mingle in "young company;" for this burnishes them with an enamel, a polish otherwise forever unattainable. Everybody proclaims everywhere, all through life, whether they enjoyed or lacked its refining brilliancy. No woman who lacks it during girlhood can ever become the perfected lady, nor man the finished gentleman;

for its juvenile absence leaves them ever after awkward, abashed, ungainly, stiff-jointed, and "unfinished," showing "the basting threads."

ONE LOVE, complete, whole-souled, body and mind developing, and completely satisfactory throughout, is mercifully allowed to us all. Those of mature years who lack it might about as well lack a limb, or an eye; for without it none can ever become perfect as men or women.⁴²⁸ As a life season, repast, luxury, enjoyment, what surpasses, what even equals it! Descriptive words but mock this sacred theme. We will not profane its holy shrine. Let readers go back in fond memory over the sacred endearments of this "holy spell" of life; yet its early blight or mildew will prevent most from at all realizing how all-glorious a life-treat they have missed, how *great* a good they have lost, how luscious a fruit of paradise they failed to gather. Most pluck it while yet too green, thus losing a large part of its luxurious lusciousness; others let some lightning love-spat shiver it to atoms in their grasp; others still imbitter and mutilate or poison it with one virus or another; while almost all utterly fail to derive from it even a hundredth part of its delights or benefits; and yet its *inherent* raptures no tongue can tell, no pen describe, and only those at all realize who know by an ecstatic *experience* bordering on insanity.

HO, YOUTH, see to it that you make the most of it! A second growth, a rowen crop, is indeed possible; but though much better than none, yet is only "second rate;" while any second growth will be the greater, the better the first.

A DOTING MOTHER, rich, aristocratic, intending to make a fascinating belle of her darling only daughter, finding that she had a "favorite" in a fine, smart, splendid-looking young man, took her and him to a private country summer resort, engaged rooms contiguous, and threw them together all they desired, which was considerable, meanwhile giving out that they were "engaged;" and when it was hinted that she unduly exposed her susceptible daughter to temptation, replied, in effect, that —

"Since there is no such thing as pure conjugal affection in that fashionable society my pet is entering, I am bound to afford her one good, long, bright, happy love season beforehand."

THIS PRINCIPLE is right, yet her *application* of it is ruinous,

even damnable. She should indeed have made the very most of her daughter's "first love affair," yet provided for its *perpetuity*, not its dissipation; and all parents should be governed by this principle, yet make the most possible out of their children's first love season by keeping it up unmarred *ever after its commencement*.

TO FIRST MARRIAGE and all after marriages, first business and all subsequent business, to every season of every year, and every life season, to all its years, days, hours, and moments, this principle deserves a like specific application. "Whilst we live, let us live," is our true life motto. No folly can be greater than sacrificing to-day's enjoyments on the altar of to-morrow's; for "to-morrow may never come;" and when it does, "*sufficient unto the day* is the evil" and the good thereof. So far as we can augment *to-day's* pleasures by providing for to-morrow's, which we usually can, we are *double gainers*, otherwise double losers.

OVER-WORKING TO-DAY in order to accomplish this end or that, no matter how desirable, is folly, is wickedness, because, by inflicting positive damage and pain on us now, it diminishes our *power* to enjoy and accomplish ever after. Thus over-doing one tenth to-day forestalls our *power* to do one quarter or more for to-morrow, and day after, and all subsequent days; thereby entailing a *perpetual* loss none can at all afford. Working up only to-day's strength to-day, is the true way to have strength for to-morrow.

AMERICANS ARE STARK MAD with this pell-mell rushing and struggling to amass for the *future*, instead of enjoying in the present. They can snatch but a week's summer vacation this year, and next year, and every year; because, forsooth, others may outstrip them, or they might not lay up as much as by working on. They intend to enjoy by and by *all in a lump*, yet work on, on, on, now all in a lump. Let the following anecdote, which applies to everything else equally, illustrate this folly and loss.

A DYING MOTHER, taking her young son's warm hand in her death-struck cold ones, said, —

"MY DARLING SON! heed your dying mother's last advice: — Make the enjoyment of your *family* your one great life object, for this will super-add all others; and to this end enjoy your family *as you go along*. Learn by this my own sad example. Your father and I started out in

life with this only thought, to enjoy ourselves together in the family; but in trying to do so, we made this fatal mistake of struggling and sacrificing all through the *fore* part of life that we might 'lay up' something on which to enjoy its latter part in family comforts; but he is dead, and here I am dying, without either of us having enjoyed the *only* end for which we have toiled and suffered all our lives. My son, avoid our life shipwreck by adopting this inflexible rule of enjoying your family *day by day* all through life, thus making your domestic felicity *sure*."

SHE CLOSED HER EYES, AND DIED; but her dying lesson should *live forever*, and be applied by *all* sons and daughters, not only to their domestic felicities, but to all life's other ends.

THE GREATEST SUCCESS is thus achieved. As if, to catch that train, you bound off so hurriedly at first as to lose your breath, you compel yourself to walk towards the last, and lose your train; so many business men dash ahead and launch out, so loading themselves down with debts as to compel the sacrifice of their profits in shaves and losses; whereas, a moderate beginning, by saving these losses, would have left them richer on less work.

THIS TO-DAY ENJOYING PRINCIPLE is patent, and easily applied by all to everything, and is of the *utmost* practical importance. Life is *made up* of PRESENT MOMENTS. Let us all make the most possible of each, by laying each under special enjoying contribution, *as it FLIES*.

18. — LIFE INHERES IN THE MENTALITY.

SOME ONE THING CONSTITUTES life. Nothing can be without having its inherent *components*, that which *makes* it what it is, and gives it its being and character. Life must therefore needs have its one constituent principle, that which makes it life, and nothing else. In what, then, does this essence of being consist? What gives it its personality and identity? Of what is it composed?

OF MIND alone, not body; of primal mental *powers* to put forth this function and that.²⁶ Life is a MENTALITY, not a physiology. It inheres in its *soul*, not in its anatomical organs.

ALL HUMAN CONSCIOUSNESS, that highest tribunal of truth, proves that the mind, not body, constitutes the man.

INSANITY is our first witness. Whenever it dethrones reason and destroys consciousness, we never hold its victims "respon-

sible" for their actions. Their insanity clears them at the bar of their country, and by common consent. We instinctively *feel* that the maniac ravings and crazy deeds of an insane friend are not *his* sayings and doings.

AMPUTATIONS teach a like doctrine. Cut from him limb after limb, and part and organ after part and organ, till all were gone, if that were possible, but leave his *mind* unaffected, and *he* remains precisely the same identical friend after as before.

LOVE DEMONSTRATES that this *mentality* is what both *loves* and *is loved*. Attest, all ye who have loved truly, just *what* in you loved. Was it your *body* that loved, or your *mind*? Your mind, of course.

LOVED WHAT in them? Their *physical* nature? or their spirit? Your *mentality* loved their mentality, not your physiology theirs. It was your *minds* mainly which drew you together, not your persons. You idolized her *sweet spirit*, her *angelic virtues*, her *bright intellect*, her exquisite taste, not her physical beauty; while she worshipped at the shrine of your noble *nature*, *mag-nanimity*, *courage*, *talents*, and mental excellences, not your animal nature. Let the following stand as a representative of *mil-lions* of like cases. "Millions?" Ay, of *every* case of genuine love that ever was, or ever will be.

AN ENGLISH OFFICER, betrothed in marriage to a proud, rich, beautiful, and accomplished heiress, summoned to India, fought bravely, was badly "cut up," and wrote back to her, —

"I HAVE LOST a leg, an arm, an eye, and teeth. My face is scarred, blued, and begrimed for life. I am no longer that fine-looking soldier you once admired, but, instead, a maimed, physical wreck! You could not love me as I am; but young, handsome, lovely, you can have your choice among England's peers; and I love you too well to stand in the way of your affectional enjoyments, and hereby voluntarily release you from your marriage vow to me. Choose one you can love better."

She returned for answer, —

"YOUR NOBLE MIND, your splendid talents, your martial prowess which maimed you, are what I love. As long as you retain sufficient body to contain these *jewels of your mind*, I still love you the same as before, and long to make them *mine forever*."

THUS SAY ALL genuine lovers, male and female. Only lust dotes mainly on physical beauty. He who would not love his

once handsome wife just as well after as before pitted by varicoid, *never* loved her.

“THAT FRENZY of love men always feel for female beauty gives the lie to this mental love doctrine.”

BEAUTIFUL WOMEN are so because of that moral loveliness which underlies their nature, and *creates* their personal attractions — a doctrine fully proved and qualified under “the temperaments.”

BLIND men and women love as ardently as those who see. Does not *this* prove our doctrine? *Every loving and loved one* that is, ever was, or ever will be, proves it. *Your own soul*, reader, is your own witness, judge, and jury, unless it has become badly demoralized.

DEATH proves this mentality of man still more conclusively. We instinctively *feel* that the lifeless corpse of our deceased friend is not *himself*. Though his bodily *organs* are all there, shaped and placed as in life, and all the same except the departure of his spirit principle, yet we instinctively *feel* that *he* is not *present*; that his constituent essence has departed to far-off scenes and places. No! ye mourners, when you bury your darling child's, wife's, husband's *body* in the cold, cold grave, you do not bury *them*, but only their former organism. Let all human intuition bear the sacred witness.

HEAR THE GREAT GRECIAN SAVAN on this point, who replied, when asked by his loving disciples, just before his execution, —

“Dear preceptor, where do you command us to bury you?”

“Bury *me*? My *body*, I suppose you mean. *That* is not me. Give that to the beasts, for aught I care, but Socrates' *soul* ($\psi\upsilon\chi\eta$) is Socrates, and that goes to be with the gods!”

WATTS, too, on being rallied for his diminutive stature by a female admirer, stepped forth, and impromptu rejoined, —

“Though I could reach *from pole to pole*,
And grasp creation in my span,
I must be measured by my *soul*;
The *mind's* the *standard* of the man.”

OUR SPIRIT-LIFE is what constitutes ourselves, our identity, our personality; these bodies being but the tools by means of which

it connects itself with matter, and operates upon it. Neither our organism nor functionism constitutes our life, but that which organizes the organs, and then uses them till it has no further use for them, when it leaves them to die. All else is secondary; this alone is the lifehood.

THE DETERMINING QUESTION is whether life inheres in our *organism*, or in that *spirit-entity* which constructs and animates them. Which is lord, and which vassal? Which was created for the other? Which enjoys, and suffers? Was man created mainly to eat, sleep, work, and die? or to *feel* and *think*? Does sight inhere in the eyes themselves? or in that mental *Faculty* which effects sight by them? Obviously in the Faculty; for, though they are perfect, after it leaves them they can see no more forever. Yet those whose eyes have been destroyed *remember* what they have seen. Now if the eyes constitute sight, their destruction must destroy both it and all its memories. Eyes are to sight what the tool is to its handle — simply its *means of action*, but not itself. Sight is as different from its eyes as cotton cloth is from that cotton factory which manufactured it. As the factory is only a means to a desirable end, and useless but for this end; so the body is only the means for executing that life which constitutes the one ultimate end of this material department of Nature. Our organs, like an outer garment, are a means of enjoyment, which we lay off when we are done using it; yet it forms no necessary part of *ourselves*. Our identity and personality inhere in our *spirit-principle*, our intellect and soul, not in our bodies. Their being in rapport does not render them identical, any more than is a man and his shadow. Both philosophy and the intuition of all mankind consider the mentality as the man, and the organism as only its servant. Neither is himself. To presuppose that man is a mere animal, is to underrate him almost infinitely. That he is an animal, and of the highest grade, is a palpable fact; but that he is incomparably more, is equally apparent; and that his animal nature is the mere servant of his spiritual.

READER, do not these and many like facts *demonstrate* that life inheres in the mentality! This point confirms and is confirmed by that doctrine of *immortality* demonstrated in Part IV.

SECTION II.

NATURAL LAW, ITS PHILOSOPHY, EXISTENCE, REWARDS, PUNISHMENTS, &c.

19. — NATURAL LAWS GOVERN LIFE THROUGHOUT: THEIR RATIONALE.

THE PARAMOUNT fact of all life obviously is, that every single one of all its functions, throughout all their phases, are governed by natural laws. Universal Nature is thus governed, even down to every mote of matter throughout all its mutations, forever. The axiom, "Every effect has its specific cause, and every cause always produces its own legitimate effect," is but the summary fact of Nature, the governing condition of all things, and too apparent, as well as too generally admitted, to need proof or amplification—a truth most admirably illustrated in Combe's "Constitution of Man."

SOME RATIONALE must needs call for this arrangement of the natural laws. Nothing exists for nought. Whatever is, has, and must needs have, its *why and wherefore*. An institute of Nature thus universal and potential, must needs execute some great trust, some necessary work, some end every way *commensurate* with this cause-and-effect executor.

HAPPINESS is that end,¹⁵ which it secures by appending certain fixed consequences to specific antecedents. How could we render ourselves happy unless there pre-existed certain established conditions which always result in happiness? Thus how could we feed ourselves if stones nourished us one day, wood another, and a thousand other things on as many different occasions at random! Whereas, under this natural-law arrangement, we know what will nourish, and what poison us to-day, to-morrow, and always in the future, as it has done in the past. If gravity caused us, our houses, stones, everything, to ascend to-day, descend to-morrow, go sidewise here, and slanting there, how could we build, or in fact do anything else? whereas, this institute of law causes all terrestrial substances to gravitate downward, which enables us to employ this gravitating *law* to achieve pleasurable ends. If

touching fire burnt us one instant and froze us the next, whilst touching something else burnt us the next, we should not dare touch anything. If the same circumstances produced good crops here but poor there, or good at one time and poor at another, how could we ever raise anything? Whereas, this natural-law institute causes the same conditions always to produce good crops, and others poor, wherever applied; so that by knowing and applying the conditions of a good crop, we can always secure one; and by obviating those of a poor one, guard against a poor. But for this arrangement how could we possibly ever accomplish anything? We might desire, and be made superlatively happy by, ten thousand things, yet would be unable to effect any one of them, or bring to pass any ends whatsoever. In case Nature were all haphazard and chaotic—if the same things gave us pleasure to-day but pain to-morrow, how could we render ourselves happy, or avoid becoming miserable? We could only passively enjoy or suffer whichever might *happen* to us. All efforts to render ourselves or others happy, or prevent misery, would have been absolutely futile, and life itself worthless; so that Nature, in order to achieve her one great end,¹⁵ must needs first pre-establish certain *rules*, which, when observed, secure enjoyment. In short, “law and order” must take the place of chaos; yet this would have been nugatory but that *always*:—

OBEYING THEM PRODUCES HAPPINESS. Just as far, and precisely wherein, any and all, high and low, conform to them, they enjoy, an item of pleasure being attached to every item of conformity. “The rich and the poor stand alike” before them. All can make themselves happy to the precise extent of such fulfilment. As far as wealth promotes conformity to them, it promotes happiness; but wherein and as far as it furthers their violation, as it often does, it curses its possessors by making them miserable. Every human being, throughout all time, has the measure of his obedience in the amount of pleasure experienced, which he can augment in exact proportion as these laws are obeyed. This puts our happiness mainly into our own keeping.

GREAT GOD! How infinitely merciful, as well as just, is this the *governing* law of Thy realms! and basillar principle of our existence!

NATURAL LAWS DO EXIST, and enjoyment always *does*, and

necessarily must flow from their obedience, just as surely as water runs downwards. This is the first fact, the first condition, and the first lesson of life — is to it what the sun is to the earth.

THEY CONSTITUTE THE FOUNDATION and motive-power of all that is. In and by means of them alone do "we live, move, and have our being." They pervade, permeate, and govern all things. They originate all power, and then apply it to the production of all results.

ALL SCIENCE CONSISTS IN THEM, and their outworkings.

THUS the science of astronomy consists solely in those natural laws which govern the heavenly bodies, and their operations. The science of chemistry consists in those natural laws which govern organic changes, and their workings. This is equally true of each and all the other natural sciences. In fact, all Nature is wholly *made up* of these natural laws, and their operations. What would she be but for them? Only chaos personified. What ends does she accomplish except by their instrumentality? Absolutely none. They embody the live principle, and the quintessence of all that is; the binding power of all our duties and obligations to God and man; the means of all our enjoyments; and the soul of all goodness and philosophy.

ALL KNOWLEDGE likewise consists in a knowledge of these identical laws, and their effects. A knowledge of history is only a knowledge of what the laws which govern human nature are, and have effected. Mathematical knowledge consists solely in understanding numerical laws and facts; and so of all the other sciences.

HE ALONE IS LEARNED, therefore, who knows these laws and their operations, though ignorant of ancient mythology and languages; while all who do not understand *them* are in that proportion practical ignoramuses, however good linguists, mythologists, &c., they may be. Even all art and all poetry are but the expression of these identical laws.

20. THEY EMBODY THE DIVINE WILL AND MANDATES.

ALL GOODNESS likewise consists in conforming to, and all badness in violating them; for they alone *constitute* all right, and their infraction creates all wrong. They are God's tribunal of whatever is right and wrong throughout His universe.

THE DECALOGUE itself is indeed infinitely obligatory, yet so not at all because issued amidst Sinai's thunderings and lightnings, but solely because it is a rescript of these natural laws, in which all right, and by converse, all wrong, inhere; whilst all other inherent rights and wrongs are no less binding because omitted in that moral formula. They constitute that *lex legum*, that "higher law," which declares what is virtuous, and what vicious.

LOVE OF THESE LAWS of Nature should therefore be our first love. As we love our very being and our happiness, as we love God and His commandments, let us love these His edicts, written, not on tables of stone, but throughout all His universe, and interwoven into all our desires and instincts. If David could exclaim, "O, how love I Thy" (Jewish) "commandments," how much more should we all exclaim, perpetually, "O, how love I Thy NATURAL Laws! They are my meat and my drink. Whatever I enjoy, do, &c., is through them alone. Their Author is my Author, and their commands are His eternal rules of action, sent out unto all He creates." Let all nurseries and legislative halls, all schools and colleges, all churches and human institutions, resound with these laws, and all whom God hath made, press all their energies into their fulfilment.

21. ALL PAIN IS CONSEQUENT ON THEIR VIOLATION.

PAIN EXISTS. It even constitutes as integral a department of Nature as happiness, besides embodying as mighty a moral; namely, to *compel* obedience to these natural laws. The pleasures attached to their fulfilment, though the most powerful incentive thereto which their divine Author could devise,¹⁹ embody only *half* His means of enforcing obedience to them. He persuades us, by proportionate happiness, to obey them, but *dissuades* us from their disobedience by all those penalties He has attached to their violation. Pain is constitutionally abhorrent to man—is the only groundwork of all his dislikes. By an arrangement living back in his very nature, he instinctively and universally shrinks from it as from poison, as well as avoids its cause. He shuns only what occasions it, and for no other reason, and dislikes all things in PROPORTION to the pain they give him, as well as wholly because of such pain. Hence, he instinctively

avoids violating these natural laws when he realizes the consequences, because such violation occasions that suffering which he dreads; and seeks in obedience that pleasure to which he is constitutionally so powerfully attracted. To obey them is to be happy in and by means of such obedience, whereas to violate them is to incur proportionate misery. Our enjoyments admeasure our obedience, and our sufferings our transgressions. No man or woman, youth or infant, not even beast or reptile, can violate any one of them, anywhere or at any time, without suffering proportionate misery. Learned and ignorant, great and small, Christian and infidel, prince and peasant, stand alike amenable to them, and are equal subjects of their rewards and punishments. They are "no respecters of persons." "Obey and be happy, or disobey and suffer," is their universal watchword, throughout all times, climes, and persons. They *will not be* trifled with, but are stern, sovereign, and immovable; without fear, favor, or sympathy. "Without sympathy?" By no means. Instead, they are sympathy personified. Their only intent and operation is to do good. Their underlying *principle* is to promote happiness by promoting obedience, and prevent subsequent suffering by preventing further sinning. Their very inflexibility is notice to all *never* to transgress them. If they ever gave an inch, man would take an ell; but they never deviate one hair's breadth.

TOM PAINE superficially argued that if the Deity were all-wise, all-powerful, and all-good, He could and would have excluded pain from His universe. He virtually said, —

"How comes it that so many suffer all the misery they can endure and live? Must we charge all this actual and possible agony to divine malignity? Has God missed His mark? or been thwarted and outwitted by some cunning spirit of evil? or by 'total depravity?' Have His benign plans miscarried? WHY must man suffer all this?"

"TO PROMOTE THEIR HAPPINESS," is the answer.

"What? must Nature do evil that good may come? Must we suffer in *order* to enjoy? This is like burning with ice, and freezing with fire; like falling down in order to rise up; like blending natural antagonisms."

NEVER! This is utterly contrary to the Divine government. Our world is, indeed, full of suffering and woe! Pandora's box, filled with all manner of diseases and miseries, has been opened upon man! He literally groans in agony! Poverty, wretched-

ness, loathsome diseases, distressing sickness, the heart-rending decease of friends, children, and companions, and even premature death itself, tearing its victims from life and all its pleasures, torment most mankind! Millions suffer beyond description, and millions on millions are or have been tortured into the wish that they had never been born, or that death, with all its horrors, would hasten to their relief; while most consider our world, though so perfectly adapted to promote human happiness, only a path of thorns, and life itself a lingering, living DEATH!

YET SUFFERING FORMS NO NECESSARY part of any constitutional arrangement or function of man. Teeth are created and adapted to masticate food, not to ache; nor need they ever. The stomach is not made to occasion griping pains, nor in any way to distress us; nor the lungs to torture us while they waste away in lingering consumption, blasting all our hopes and happiness. Neither malignant fevers, nor distressing rheumatism, nor torturing gout, nor loathsome life-eating cancers, nor any other kind or degree of disease or suffering, form any part of man's original constitution, nor of Nature's ordinances; but all are utterly repugnant to both.¹⁵

KINDNESS was not created to torment us with the sight of distress we cannot relieve; nor Force to brawl, quarrel, and fight; nor Destruction to devastate whole nations with woe and carnage, making loving wives lonely widows, and happy children desolate orphans, by the MILLION, besides all the horrors of the battle-field itself; nor Appetite to gormandize till it offers up all that is virtuous and happy at the shrine of beastly gluttony and drunkenness; nor Ambition to pinch the feet of the suffering Chinese, nor flatten the head of the savage Indian, nor deform the waists of fashionable would-be beauties; nor Dignity to wade through seas of blood to thrones of despotism; nor Devotion to create all the abominations of Paganism and bigotry of Christendom; nor Construction to make implements of torture and death; nor Acquisition to cheat and rob; nor Causality to plot mischief and devise evil; nor Friendship to mourn in hopeless grief the loss of near and dear friends; nor Parental Love to torture us with inexpressible anguish by the death of dearly-beloved children, and perhaps entire groups of beautiful and happy sons and daughters; nor Constancy to weep disconsolate and distracted at the grave

of a dearly-beloved wife, or devoted husband — perhaps after every means of support has been exhausted, every child buried, every earthly hope blasted, and while torturing disease preys upon life itself, and opens the yawning grave at our feet! No, NEVER! Cold and heat are not more antagonistic than these results are contrary to all Nature's adaptations. Nor is there a single physical organ, nor mental Faculty, nor human function, whose normal product is pain, nor anything but pleasure. Any other doctrine contradicts universal fact, attests the ignorance of its advocates, and libels Infinite Goodness!

EVEN THE DEVIL HIMSELF, if a personal devil exists, must needs fulfil this same benevolent mission; for he can tempt *only* those who are in a sinful, and therefore a temptable *state*; and by enticing them to burn their fingers to-day, he keeps them out of greater fires of sin to-morrow.

OUR WHOLE WORLD is one great round of beneficent provisions for human virtue and happiness, but this punishing the infractions of natural law is the Alpha and Omega of them all! the great teacher and moralizer of the race in each of its members, as well as the master contrivance of the Almighty!

ALL HAIL, then, this institution of pain! But for it we could only half live! How powerful, how perpetual a *practical* teacher of righteousness it becomes! But for it how could we know whether or when we were freezing, or burning, or bruising, or cutting, or injuring, or destroying any part of our bodies, or be kept from killing ourselves; whereas, this ever-present, sentient watchman stands forever "on guard" all over our bodies, outside and inside, compelling us to note what gives us pain, so as not to repeat it.

OVER EVERY MENTAL emotion it stands equal sentinel, paining us in and by means of every single evil thought and feeling, desire and passion. Divine goodness and wisdom ordained it as His messenger of universal good. Gravity is no more useful in the material world than is suffering in the moral. With one hand God is forever holding forth the rewards of obeying His laws, while with the other He is promoting this identical end by the terrible lashings of pain for violating them!

22. — EVERY LAW IS SELF-REWARDING AND SELF-PUNISHING.

IN THE IDENTICAL WAY thou sinnest, thou shalt surely suffer. Obeying one law creates one kind of enjoyment, and another law another kind; while violating one law inflicts one kind of pain, and another another. Those who obey the affectional laws, but violate the dietetic, enjoy domestic felicity, but suffer from dyspepsia, and *vice versa*. Those who obey the parental law in loving their children, but violate the conjugal by hating their companion, enjoy in their children but suffer in their consort; and the converse. One may obey the law of kindness, yet break that of Acquisition, as did Gosse, by giving away two fortunes, and suffer ever after from poverty; whilst a miser obeys the natural law of Acquisition in acquiring money, yet robs Kindness, and most of his other Faculties, by miserly penuriousness. Hence many are very happy in some respects, because they obey some laws, yet suffer inexpressibly in other respects, because they violate other laws.

ALL CAN TRACE their enjoyments and sufferings by means of this arrangement, up to the *precise* laws they are obeying and transgressing, and thus ascertain exactly *wherein* they are sinning and suffering, so as to repeat the former, and avoid the latter. Thus, —

Mrs. A. thinks the world of her church, attends its every meeting, is a missionary of good, and really enjoys religion exceedingly, because she fulfils the natural laws of Devotion; and yet is nervous, dyspeptic, weak, and often down sick, as well as suffers excruciating torture from neuralgia, sick-headaches, &c., because she has outraged the laws of health. Now, by seeing in what respect she enjoys, and in what she suffers, she can ascertain just *what* particular laws she is fulfilling, and what breaking; so that, by fulfilling the physical, she can become as happy physically as she now is religiously.

AS A PRECEPTOR, Teacher, and Professor of the natural laws, please consider how efficient this arrangement becomes. Though its instructions are often costly, yet they always teach effectively, by rendering "experience the best of schoolmasters," without which we all learn slowly and poorly, but with it fast, and then *remember*. As a moralizer, a practical instructor in righteousness

and all the human virtues, as well as a solemn warning against sins and vices of all kinds and degrees, it as far exceeds in eloquence and power the most gifted pulpit orators as Divinity exceeds humanity. If preachers would show just what obeyed laws cause these enjoyments in this sermon, and what breaches of natural law cause those sufferings in another, they would soon reform all their "hard cases," by arraying their very *self-interest* on the side of virtue and goodness.

EACH CAN THUS become his and her *own* preacher, by studying out the *causes* of each and all his joys and sufferings as they transpire, thus : — this twinge of mental anguish came from my having broken this law, and that thrill of pleasure from my having fulfilled that natural requirement. And those must be genuine dolts, "dyed in the wool," whom this does not "convert from the error of their ways."

IN THE DAY thou sinnest, thou shalt suffer. As short settlements are best, but long pay-days are almost worthless, is it any wonder that so many sleep and sin on over those "scores" they are told are payable *after death*? These natural-law accounts are payable *at sight*, and cannot possibly be avoided. Nature is her own lawgiver, court, judge, jury, sheriff, and executive officer; besides being omniscient and omnipresent, to see that exact justice is meted out to the last iota. No ends of the earth are far enough away, no hiding-places are hidden enough, no one is high or low enough, to allow of escape.

HOW MUCH enjoyment obeying these laws bestows, or violating them inflicts, we little realize. This depends partly on our capacities to enjoy and suffer,¹⁵ and partly on the relative value of each law. Thus a most affectionate woman breaks the law of love, whether ignorantly or knowingly matters not, by causelessly discarding one she tenderly loves, she suffers as much more than one with little affection as she is the most loving: and her sufferings begin with the violation, but end *never*! Every subsequent moment of her life, asleep and awake, she suffers throughout her entire being, and more excruciatingly than any can imagine who have not suffered similarly. The ultimate sum total of her affectional misery is really inconceivable. It may prevent her marrying at all, or eventuate in an unhappy marriage, and this impair her health; and this cause the death of children, besides inducing

innumerable miseries otherwise unknown: whereas, if she had obeyed this love requirement, she would have been immeasurably happy in both her conjugal and maternal affections, and in all these other respects; so that the difference between obeying and violating this love law is really incalculable and eternal. None of us can at all afford to forego the one, nor incur the other. The sacrifice "doesn't pay."

SINS AND VIRTUES MULTIPLY, and their *effects spread* like fire on the prairie. Fulfilling or transgressing one law, induces that of many other laws. Mythology relates that a man, compelled to choose between drunkenness and matricide, chose the former as the lesser evil, and while drunk murdered his mother. One sin induces many sins, with their sufferings, and one virtue begets many virtues, with their enjoyments. Then by our love of enjoyment and dread of suffering, let us make ourselves just as happy, by obeying just as many laws, as possible, and suffer just as little through their violation.

23. — ALL PHYSICAL PAIN A CURATIVE PROCESS.

PARADOXES often express truisms. Of this the above heading furnishes an example. It seems absurd, yet is literally true. It is an idea original with the Author, but will bear the broadest and most searching investigation. Let us scan first its philosophy, then its facts.

INFINITE GOODNESS might seemingly have been content with rendering pain simply a *warning* against committing future sins; for even this natural ordinance, as a device,²¹ an invention, even if it had stopped here, would have been worthy of the great Architect of this grand old universe; but He went farther, and kills *two* birds with this one painful stone — as He does with many others. He not only makes pain a beacon placed all along our life-pathway to warn us the instant we depart from His Divine pathway of our happiness,¹⁹ a buoy all along life's channels to tell us just where we can find deep waters and clear sailing, and where sand banks, rocks, and shipwrecks, but He *has made pain His remedial agent*. It not only tells us, "Go and sin no more,"²¹ but it also *brings us back*. Like the shepherd dog which takes a stray sheep by the ears and *brings it back* from among wolves to its safe folds, paining yet thereby restoring; so

pain stops our going farther on that stray road of violated natural law, and then kindly *heals its own wound*! Making the wound blesses us, and salving it over doubly blesses.

NO RESTORATION WITHOUT PAIN, is her motto. Whenever we have so far damaged our material organism as to preclude its restoration, this damage BENUMBS — destroys our sentient principle. A soldier *fatally* wounded is thereby *benumbed*, instead of being agonized.

WHY NOT? Of what use would pain be after any irremedial damage? It would be unmitigated cruelty; yet "God is Love." He doth not *willingly* afflict His children, but always and only for *their good*, not His pleasure. Why rack a man with pain after his death warrant has gone forth? Since he must die, let him suffer as little as possible. All we know of Divine Goodness warrants and teaches this inference; and *facts* on the largest scale support it. No fallacy can be greater, no declaration more absurd, than this of doctors, nurses, and the sick, —

"THIS fever must be broken at once, or it will wear you out." "This boil must be scattered." "This nervousness must be subdued by opiates, so that you can sleep."

FEVERS ARE FRIENDS. They *burn up* the waste, poisonous matters of the system, and clean out the Augean stables of physical corruption. They would not have been instituted unless they had been beneficial; for an All-wise God ordains nothing for torture, and nothing in vain. They consume that surplus carbon which is the chief cause of disease.¹¹³ They always generate heat. How? By this very consumption.¹³² They increase respiration, by making all their suffering victims *pant for breath*. This fact is apparent. Why? Solely to obtain that surplus oxygen requisite for consuming this surplus carbon, and their combination generates the heat incident to all fevers. Surplus carbon is clogging and crippling all the functions.¹¹³ Nature must unload it, or succumb to it. She cannot eject it, because it is all through the body. She must set up a fire to *burn it up where it is*. She can do this only by supplying its "fixed equivalent" of oxygen, which she can augment only by augmenting the breathing¹³²; hence this panting for breath in all feverish patients — breathing deep, fast, and as if they were half crazy for more breath. This extra

craving for breath means something. Means *what*? Means that extra *oxygen* is wanted. Wanted for what? To burn up surplus carbon. Reader, think out this problem.

"FEVERS EXHAUST." Why shouldn't they, after so herculean a labor of consuming all this filth and corruption!

FEVERS SIGNIFY LIFE, and remedial action, and therefore prospects of recovery. When the system is so far spent that it cannot be restored, it yields to disease; whereas fevers are but its strugglings to get rid of it. Blisters illustrate this principle by acting only where there is sufficient life to resist them. As they cannot be raised on patients about to die, so patients far gone have not vitality enough to set up a fever.

FEVERS AUGMENT PERSPIRATION. The surplus heat thus generated by this extra consumption of carbon must escape somehow; for the system needs only a tithe of it. It creates thirst, and then seizes the water thus supplied, turns it into steam in quantities, forcing it out in great drops everywhere trickling down, and with it out go quantities of disease, of which that bad odor, that fetid exhalation from the breath and whole surface of fever patients is demonstrative evidence. Else whence and why this awful stench? Put these four *facts* together, and learn from them that, as there is a water cure, and a motion cure, so there is also a *fever cure*.

LET FEVERS RUN. Encourage, but on no account try to break them. They come to relieve you. Give them what materials they want, and *let them alone*. Yet be *just as careful as possible* not to catch cold after their paroxysms. They exhaust, and also sweat the skin, so that it becomes doubly exposed to colds, while the system is yet exhausted with its restorative effort.

CHILLS usually precede them. This is obviously due to the vital force retiring to the centre of life, preparatory to making that desperate purgatory effort it is now beginning. By all means supply artificial warmth by keeping your room warm, going to bed, and "*piling on*" the clothes, or, what is still better, going into a bath just as *hot* as can be well borne; but on no account try to break up fever and ague, nor any other remittent, intermittent, or periodical fever by calomel, quinine, &c., because this leaves that corruption they are ejecting still within you.

ALL THIS CLASS of fevers can be easily and effectually cured

thus : As soon as you become chilly, go into a bath just as hot as you can well endure, and remain in it till the *fever* stage is well established ; then jump instantly into bed, without getting chilly by wiping, cover up warmly, go to breathing deeply,⁸⁴ drink all you like, lay a cold, wet cloth on your stomach, and *sweat away*, but lay till long after perspiration subsides, and if possible go to sleep, and keep well bundled up till you retire for the night. Follow this recipe at every return of your chills, and curse me if it does not soon cure you, provided you bless me if it does.

QUININE kills fever by killing the patient just that much, but leaving all that poisonous carbon which created it still there.

DRINK to your heart's content. Soft water is the best.¹²¹ Lemonade, if quite sour, may do, yet sweet consists mainly of carbon, the excess of which causes your fever. Cider may do, it furnishing an acid to combine with and neutralize the acids of the system.¹¹⁶ But soft water is probably the best drinking material. Take it cold or warm, as you prefer, but pour it down by the quart.

CATNIP TEA is good, for it starts the perspiration ; so does sage, motherwort, &c. The Indians use catnip tea for causing perspiration.

FORMERLY doctors absolutely interdicted water in all febrile cases ; but the life and death *instincts* of many patients, as indicated by their intolerable thirst, led some who had been given up to die, and therefore were allowed what they wanted, to drink quart after quart of water or cider, immediately after which they broke out into a drenching perspiration, and began at once to convalesce. Water should not be drank after calomel ; but the evil lies in the *calomel*, not in the water.

BOILS confirm this theory, that pain is a recuperative process. Do they not improve the health, in every single instance ?

EXPECTORATION furnishes another illustration, by unloading the system through the lungs. Many years ago the Author had overworked his brain so long that, for months, his forehead ached terribly and incessantly, almost refusing to do duty. Taking the cars after exhausting labor, in a severe storm and blow from the lake, in the spring, he sat a while by an open window, till a little hoarseness warned him that he had taken a slight cold.

THIS THROAT IRRITATION crept along down to his lungs, and ended in expectoration so copious as seriously to interfere with his lectures. But it *cleared his head*. For the first time in over twenty years, he had no aching forehead; and was at once enabled to resume writing, which this cephalic pain had obliged him to suspend for years. It was worth thousands of dollars in dollars, by giving additional strength to earn them, and many more thousands by promoting personal comfort.

INFLAMMATION IN WOUNDS is only these wounds *healing*. All experiments show that *inflamed* blood is full of *fibrin strings*: that is, *inflammation organizes* the fibrin in the blood into shreds of fibre, which is a muscle-making process. You wound your flesh — break its muscular fibres. Nature must now set right about *patching up* these muscles. This bruising of the blood vessels dams up the blood, which inflames it, and this inflammation *organizes the fibrin* floating in this blood by a process we shall explain under "the Circulation," into strings of fibrin, with which to repair this breach. Disturbing this formatory process will cause more pain than you first suffered, because you redouble Nature's formative work. Your second offence is worse than your first.

COLDS, like sickness, clear the body of morbid matter. True, diseases originate in them,¹⁴⁰ but, if rightly managed, they would *unload* the system of disease, instead of prostrating it. The colds themselves do not generate sickness, but latent disease generates *both*. Thus the system works on under a load of disease it is barely able to carry, the blood so thick that it does not flow freely to the surface, and cause colds which now stop up this cutaneous outlet of disease. It could barely carry this load before; after, it breaks down; yet, but for this load, it would have resisted this cold-taking *condition*.

IT NOW SUMMONS all its energies to cast out this disease; sets up a fever to burn it up within the body; nauseates the stomach to prevent its introducing any more carbon for the present; perhaps unloads it through the mouth by vomiting, perhaps through the bowels by expurgation, perhaps also from head and lungs by discharges from both of thick, purulent matter¹¹³ and a foul breath; all generally aided by the kidneys. Now, if you will be very careful not to take any *additional* cold, or do anything else to oppress

your life force, the first you know you will not only be well again, but feel *better than before for years*; whereas, if you allow these open pores to be suddenly checked, and your exhausted system to be again any way injured, expect to be sicker than if you had not had a cold, and have your constitution broken down besides; all depending on how it is *managed*. Colds often do, but never need to, end in sickness. Taken in the start, they can be cured soon, and easily; but let them run, with additions, and they will soon prostrate you; and the sooner they are taken in hand the sooner they can be broken up. Those an hour, or a day, or a week old, will take an hour, a day, or a week to cure — the longer the older they are.

REJOICE YE WHEN YOU SUFFER, then, because you are getting better. Be exceedingly glad when you have sufficient life force left to *institute* pain. Head ache is immeasurably preferable to head numbness, and insanity to inanity; for the former are life struggles, the latter death.

- THE AUTHOR respectfully commends THESE ORIGINAL VIEWS of sickness, fevers, colds, &c., to both the profession and the public; and challenges their investigation in the light of both the facts of the case and the first principles of life and disease. Their scrutiny will enforce their truth.

DOCTORS OF MEDICINE may gnaw away on this file of physiological truth; we shall give D. D.'s and LL. D.'s another of this same sort when we come to apply this identical principle to moral punishment for sins.²²³

24. — IMPORTANCE OF STUDYING THESE LAWS.

KNOWING them is the first step towards their obedience. True, our various instincts prompt and aid us in this obedience, yet we require the guidance and assistance of *knowledge* besides. A law of mind causes intellect intuitively to take the helm of actions, and guide them at its will.

INSTINCTS SOMETIMES MISLEAD, because perverted by previous wrong habits. Beyond all question, they are constituted to work in harmony with these natural laws, and impel and guide us in their observance, besides being infallible; so that all should be careful to nurture, and not to pervert them; yet we violate most of them so continually from the cradle, that we need intellect to bring us back to Nature.

GOD PUBLISHES these laws throughout all His domains, thereby virtually commanding all His creatures to learn them. They are not occult, nor hidden in labyrinthian mazes, ready to spring on us by stealth, but are like a city set upon a hill, discernible far and near. No mist, no uncertainty, beclouds any of them. They are open, palpable, and lighted up by the full blaze of both philosophy and perpetual experience. None of them need ever be misapprehended. Those who cannot discern them, not as in a glass, darkly, but clearly and fully, as in the noonday sun, are either blind or stupid. Such cognizance is even THRUST continually upon us. Ignorance is no excuse. None have any right to *be ignorant*. God Himself is their Preceptor. All are sacredly bound to heed these lessons of experience He is constantly inculcating. Those who cannot learn from books and teachers must learn by experience, or suffer.

TO EXPOUND THESE LAWS and enforce their observance, should therefore be the one distinctive end and drift of all education, domestic, common, and classical. As happiness is the only "end of man," all education is useless unless directed to its attainment. It should therefore teach first and mainly the NATURE OF MAN, and other studies only as collaterals. Yet how utterly foreign to this object is it as now conducted! Pupils are taught scarcely anything concerning themselves, physically or mentally, or how to render themselves happy, or avoid pain.¹²

THE PULPIT should surely teach these natural laws as a part, and that part fundamental, of that great code of morals and rights God has ordained and proclaimed. Their obedience *is* morality, and their infraction sin.²⁰

NATURAL-LAW KNOWLEDGE IS SCIENCE. In what does all science consist but in these identical natural laws and their out-working?¹⁹ Absolutely in nothing else. Then why not make these laws the foundation and text-book of all education? Why waste the precious time and sparse physical energies of darling girls, their glowing, glorious virgin bloom included, on "Butler's Analogy," of no more after use to them through life, than chewing sawdust, as is much besides of this "full course," yet wholly ignore this whole subject of the natural laws! Why not christen the natural sciences the natural *laws*, and study them as such! But our meaning and logic are obvious.

SECTION III.

ORGANISM AND ITS CONDITIONS, AS MANIFESTING AND INFLUENCING LIFE.

25. — ALL FUNCTIONS MANIFESTED ONLY BY ORGANS.

LIFE'S FIRST LAW, its *tap-root* condition, that from which emanate most of its other laws, that fundamental *sine-qua-non* means of all terrestrial functions, obviously is that it manifests itself *only through* ORGANS. The sun is the organ of all solar light, and the earth of all growth. No form of life, no one of all its multifarious operations, is ever put forth by any other means. In fact, life is *composed* of these two things—primary *Faculties*, which originate all functions, and those *organs*, by means of which they express themselves. Neither ever exists except in conjunction with the other, but both co-exist and act *together*, throughout all departments of Nature.

EACH PARTICULAR function is likewise exercised always and only by means of its *own* organ, never by any other. Each organ is specifically *adapted* to exercise its specific function, but no other. Thus the eyes are precisely adapted to see, but to do nothing else; and all seeing is executed by them. No other organs except the eyes ever see; nor do the eyes do anything but see. Their structure renders seeing alone possible to them, and all else, except what contributes to sight, impossible; while that of the ears executes, and can alone execute, hearing, &c. Was any function ever manifested except through its own individual organ? This arrangement is both necessary and universal. No other could secure efficiency of function, or prevent confusion; while this can, and does.

But this truth is so perfectly apparent throughout every single organ and function everywhere, that it needs neither proof nor amplification; for, like the sun, it proves itself, ramifying itself throughout universal space and being.

26. — ALL ORGANS AND FUNCTIONS IN MUTUAL RAPPORT.

PHILOSOPHY AND FACT prove this truth. If man had been created a purely physical being, without any mind, he could have

accomplished nothing, could have enjoyed nothing; or if he had been created a purely spiritual being, without a material organization, this world, with all its adaptations for promoting human happiness — the glorious sky over our heads, and the flower-span-gled lawns under our feet; the life-giving sun and health-inspiring breeze; the rains and dews of heaven; and all the fruits, bounties, and luxuries of earth; as far as they concern man — would have been made in vain. But he is created a *compound* being, composed of flesh and blood, on the one hand, and of mind and soul on the other; and both are so closely inter-related that every action and condition of either exert a perfectly reciprocal influence on the other.

WHAT MEANS it that an organ is an organ, but that all its states affect all its operations? that the eyes are the organs of vision, the stomach of digestion, &c., but that all existing *states* of these, of all other organs, similarly affect their respective functions? How *could* the eyes see unless they were in perfect sympathy and rapport with the visual *Faculty*? Unless all *their* states similarly affected all of *its*? How *could* poor eyes see well or good eyes poorly? How could weak organs manifest strong functions? or slow organs execute rapid functions? or *vice versa*? In the very fitness and necessity of things, only powerful organs could possibly manifest powerful functions, and rapid acting organs rapidity of function. This principle governs every other state of all the other organs and functions. Wherever Nature puts forth power she does so by rendering its *organ* powerful in structure, and thus of all other organs and functions. All sick organs must *needs* cause sick functions, and healthy organs healthy functions. This reciprocal sympathy between all organs and their functions is both universal and perfect — is alike a fact and a necessity throughout Nature. Its philosophy is apparent. Let us canvass some of its facts.

WOOD is strong because its office is to execute this most potential function: Leaves, performing an indispensable office, must have free access to air; hence trees must grow to a considerable height. Their immense canvas of leaves and fruit must be sustained aloft in proud defiance of surging winds and raging storms, winter and summer, through centuries. This sustainment requires an immense amount of power, especially considering their

mechanical disadvantages, which is put forth by their trunks and roots. A hundred feet of purchase renders the strain, great all along their trunk, at their roots really tremendous. Wood is made hard, stiff, and strong of texture to meet this want, and is much the largest and toughest between trunk and roots, and at the junction of limbs, where most power is required. Supplying this power by bulk, by consuming material and space, would prevent Nature's making many trees, whereas her entire policy is to form all she can : hence she renders the organic *texture* of wood as solid and powerful as its function is potential. And the more solid its structure, the more powerful is its function, as seen in comparing oak with pine, and *lignum-vitæ* with poplar. But letting this single example suffice to illustrate this law, existing throughout the entire vegetable kingdom, let us apply it to the animal.

ALL POWERFUL ANIMALS are also proportionally powerful in texture. Thus the elephant, one of the very strongest of beasts, is so powerful in dermis, muscle, bone, and entire structure, that bullet after bullet shot against him, flatten and fall harmless at his feet. The lion, too, is as strong in texture as in function. Only those who know from observation can form any adequate idea of the wiry toughness of those muscles and tendons which bind his head to his body, or of the solidity of his bones. The finest lion ever in America, disinterred by myself after he had been dead six days in June, had neck-muscles so powerful in texture that cutting them seemed like cutting bundles of wire ; blunting our knives at every touch. After we had cut as far as possible into a joint in his monster neck, and vainly tried to twist it off, tying a rope around his powerful tusks, I thought, with all this purchase, to dislocate it with one easy pull ; yet, even then, it required all the strength of *four men* to start those powerful tendons which bound his neck and body together ; corresponding with the fact that, seizing a bullock in his monster jaws, he dashes with him through jungle and over ravine, as a cat would handle a squirrel ; and when he roars, the city trembles. The structures of the white and grizzly bear, of the tiger, hyena, and all powerful animals, and, indeed, of all weak ones, in like manner correspond equally with their functions. In short :—

THIS CORRESPONDENCE between all organic conditions and functions is fixed and absolute ; is necessary, not incidental,

and universal, not partial; is a relation of cause and effect, and governs every organ and function throughout universal life and Nature. Our organism is the basis of all our mental and moral functions. It so is in the very constitution of things, that mind can be put forth *only* in and by its material organs,²⁵ and is strong or weak, quick or sluggish, as they are either.

MAN, of course, throughout all his functions, is governed by this same organic law. Not only is all walking done only by the lower limbs, but it is rendered light or heavy, elastic or logy, full of snap or wanting in it, &c., in proportion as one's walking *organs* are either.

DIGESTION is performed by the stomach, all the states of which, such as its strength, weakness, temperature, inflammation, abuse, &c., similarly affect its digestion, and all its functions. Thus over-eating, not eating at all, eating right or wrong kinds of food, eating irregularly, &c., similarly affect the stomach. The importance of this law is well nigh infinite, and yet it is so obviously both a fact and a necessity that to amplify it seems superfluous. The *fact* of this sympathy between all organs and their functions is apparent. All that lives attests it in all their experiences every moment of life, asleep and awake.

ALL ORGANS SYMPATHIZE also with their functions. This is a necessary corollary of its counterpart just proved, that all organic states affect their functions. Of course all functional states must needs affect their organs. How could all organic changes produce like functional, unless all functional changes similarly affect their organic states? That mutual sympathy which produces either, also causes the other? A proposition so obvious does not need proof, hardly illustrating. Yet a few illustrations may be necessary to present its full import.

BAD NEWS AT TABLE when you are enjoying your dinner greatly, not only suddenly kills appetite, but causes your dinner to lie like lead undigested in your stomach, which, but for this bad news, would have gone on to digest well. We shall elsewhere prove that dyspepsia originates in wrong mental states.¹¹⁶ This principle shows the why and how of this fact.

TABLE AFFECTION, *per contra*, is most promotive of digestion. So is a hearty love state generally; while disappointed love is most injurious to digestion, and diseasing to its own special

organs, as a love state is improving, of which in Sexual Science.⁶⁶² Behold how all these natural truths dovetail in together, and mutually support and illustrate each other !

27. — ALL PLEASURABLE ACTION IMPROVES, ALL PAINFUL IMPAIRS, THE LIFE ENTITY.

THE VERY NATURE and constitutional effect of all enjoyment is to build up the enjoying organs, because it fulfils the one end of their creation,¹⁵ and conforms to their natural laws,¹⁰ while their painful action thwarts their end and breaks them down, so as to prevent further suffering. These results might be inferred *a priori*; because they are legitimate, and accord with the policy of the universe.¹⁵ They prove themselves; yet let us scan the *facts* of the case.

LOOKING AT THE SUN PAINS and injures the eyes, by this painful action hardening them against both their future painful and likewise pleasurable action; while all pleasurable exercise of them augments their powers of subsequent enjoyment. Freezing feet, hands, ears, &c., causes both temporary pain and permanent injury. A sudden and terrible nervous shock is intensely painful at the time, and blunts these suffering nerves ever after; while their pleasurable exercise increases their sentient capacity. Handling hot irons pains the hands, yet hardens them against future pains and pleasures. This law governs all the other physical functions.

ALL THE MENTAL FACULTIES are equally subject to this law. First love is thus ravishingly delicious,¹⁶ because this love *element* has not yet been seared by its painful exercise. It is perfectly confiding, unselfish, and self-abandoned, whereas all subsequent loves are more reserved, and therefore more complete and luscious. All painful action of Conscience hardens and sears it, while its pleasurable exercise in doing right strengthens it for next time. Blaming children agonizes them terribly at first, only to harden them against the pains of future reproach ever after; whereas, praise delights them only to make them the more keenly alive to after commendations. Extremely painful Fear finally induces stoical indifference; while its pleasurable exercise in providing against want and danger improves it, on a principle soon to be proved. Beauty, delighted, becomes the more appreciative

of other beauties; yet its disgusted, that is, painful phase palsies it against future abrasion. These and many like examples show that we are expounding a general law, applicable to all the Faculties, and inherent in the constitution of things.

ALL LAWS HAVE THEIR RATIONALE; and of course this law its, namely: All painful action sears in order, by blunting the sentient principle of organs, to harden them against future pain; yet to effect this, they must be steeled against pleasure as well. All pleasurable action feeds and develops, while all painful action palsies enjoyment. It improves by *fulfilling*, suffering injures by breaking the natural laws. Behold the accord between this principle and that natural-law doctrine just stated! ¹⁹⁻²¹

"THIS UPSETS your favorite doctrine that pain is a remedial agent. As 'liars should have good memories,' lest they contradict themselves, so should specious false reasoners, lest they controvert their own doctrines. If pain remedies,²³ how can it injure? You contradict yourself this time sure. Besides,"

"FACTS upset this doctrine. Elderly lovers are often more foolishly lovesick than youngerly; and those disappointed in love often take right hold of a second love affair with the heartiness of a starving child. Nerves repeatedly and badly shocked often become most intensely susceptible, and the more acute the more they suffer. Repeated and terrible alarms often make their victims agonizingly fearful and foolishly timid, and so of the other Faculties. We have you on the *facts*, as well as reasonings."

THIS EXTREME fearfulness is a result of Caution *injured* by its painful action, and this excessively painful nervous state is due to the nerves having been *inflamed* by previous excessive and painful exercise. All your other like "facts" confirm our view, but disprove yours, thus: — This painful action of parts has *injured* and inflamed them, and if continued, will break them down by death or stupor.

ABSTRACTLY and absolutely considered, all pain injures by its breach of natural law, yet relatively it benefits by those natural law lessons thus taught and enforced. Men would be the better if they would only learn without painful experiences, but they *will* not. Experience is about the only preceptor men will really heed. They are the better after thus learning than before, yet would be *still* better if they would learn by *pleasurable* experiences only, by which men will yet mainly learn, but not for *ages* to come. Disappointed lovers can so *use* their disappointments as to

render their second love happier than their first; but a *pleasurable first* love prepares them for a pleasurable second love better than a painful first. A painful can be turned into good by teaching useful love lessons, which outweigh its injuries; but a pleasurable love would be still better, and without any alloy. A disappointed lover will love more heartily than one whose love has lain dormant equally long, but not as well as the dormant one *could* have loved if trained and developed by a complete previous affection; the love element being equally strong by nature in each.

THIS SUMMARY COUNCIL is the final result. By all means avoid all painful action of your Faculties as far as possible by obeying their natural laws, which is better than their infraction; but when you *have* induced suffering by infringing on them, turn your very sufferings to account by learning from them all you can, and get more good thereby than you suffer damage by the pain. Do no "evil that good may come," yet, having done the evil, get all the good out of it possible.

28. — ABNORMAL PHYSICAL CONDITIONS CREATE SINFUL PROCLIVITIES.

OPIATES almost frenzy their victims with wrath by irritating their nerves. Does not drunkenness demoralize and vitiate? The same man who, while temperate, is an excellent husband, father, and neighbor, by becoming intemperate is rendered improvident, sensual, a fiend in his family, and a low-bred, swearing, fighting desperado, and sometimes even a murderer; yet restoring him physically reinstates him morally. That cherub child, perfectly well day before yesterday, was as amiable as an angel *because* well; but yesterday, fevered by sickness, was too cross and hateful to be endured; yet, restoring him to health by to-day, has restored his angelic loveliness. Many a poor, sickly child is punished unmercifully because it is cross, but is cross because it is sick; whilst, curing its body would obviate its ugliness.

MOST WOMEN, however amiable by nature, when they become nervous, thereby become bad-tempered, hating and hateful; and the only way to cure their temper consists in curing their nervousness. Many a superb wife and mother, from the very excess of her love for husband and children, works on, on, on, day and

night, year after year, in doing for them, till her health fails, which throws her into a fevered, cross-grain, ugly mood, so that she scolds all hands right and left, blaming everybody for everything, besides maligning her neighbors, solely because of her *physical* irritation; and yet, restoring her health would make her the same family angel she was at first. Her scolded husband should *pity*, not upbraid her; while all concerned should do all they can to obviate her fretfulness by removing its physical cause.

MAD DOGS attack and bite even their best friends, because their physical inflammation inflames their Destruction.

DYSPEPTICS ARE ALWAYS IRRITABLE, because a sour stomach sours the temper. And the only way to sweeten their temper consists in sweetening their stomachs. One of the ablest, best, and most scientific of men, when attacked by indigestion, was accustomed to shut himself up in his studio, lest he might vent his spleen on some innocent person. The Bible justly ascribes the wickedness of Babylon to her gluttony and drunkenness, and prescribes fasting, that is, a given physical condition, as a means of grace and goodness. Paul, too, who rarely ever says anything without saying something important, begins one of the most expressive passages of the Bible with, "Brethren, I beseech you, by the mercies of God," — would Paul begin a text *that way* which meant little? — "that ye present your *bodies* a living sacrifice, holy, acceptable unto God." *What* is thus "holy and acceptable?" The *body*. Now since it can be holy, it can therefore be *unholy*, and since it can be acceptable unto God, it can therefore be *unacceptable* to Him. As it can be "a meet temple for the indwelling of the Holy Ghost," it can also be an *unmeet* temple — "which is your reasonable service." The Greek word here translated "reasonable" should have been rendered "spiritual," and would, properly transposed, then have read thus: "Brethren, your *spiritual* service consists in presenting your *bodies* holy, acceptable unto God, which is your spiritual service, and which I entreat you by His mercies to do." The Bible is full of like passages, declaring that piety and the moral virtues are materially influenced by physical conditions, — a doctrine the progressive pulpit is just beginning to proclaim under the phrase, "*muscular* Christianity." Why did they wait for *Phrenology* to enforce it?

Why should a biblical doctrine so patent, and so promotive of piety and goodness, slumber on thus unheeded century after century? Commentators, where have been your eyes, that a biblical as well as natural truth thus universal, and illustrated by every single physical condition of every human being and animal, should have been overlooked?

OUR WHOLE WORLD IS FULL of like illustrations of this great organic law, that the entire physiology and mentality are in reciprocal rapport, and mutually act and react upon each other. All living beings perpetually experience it every instant of their existence. Life is even *made up* of this reciprocity. It constitutes not a primal, but *the* primal *lex legum* of Nature, instituted for the best good of her creatures; to ignore which is folly, but to practice which promotes our highest happiness.

THIS NATURAL TRUTH needs no comments from us. It is its own commentator. It is a *law of things*, self-rewarding its obedience, and self-punishing its infractions and neglect,²² and ramifying itself upon every minute state of body and mind. As gravity governs equally all the ponderous heavenly bodies, and all the minutest particles of matter, so this law governs all the minutest manifestations existing between the body and mind. "*All*, when any," is a natural law. We shall soon give the instrumentality by which this law is executed.^{37,38}

THIS GREAT ART OF LIVING, therefore, consists in learning *what* bodily states cause given mental, and what mental states produce given physical. How strange that an art which is to life what foundation is to superstructure, should have thus been completely ignored till enforced by Phrenology!

29. — ITS MATERIALISTIC OBJECTION ANSWERED.

"But, sir, this doctrine not only inculcates materialism, but it is rank out and out materialism itself, and that in its worst form. It makes mind wholly dependent on matter, and only its outworkings. No materialist before or since Voltaire, himself included, has stated, or can state it in a stronger light. If it is true, then farewell to immortality; for the death of the body presupposes and proves the concomitant death of the soul; because, if they are thus intimately related in life, in death they cannot be divided."

CARRY THAT OBJECTION UP to the throne of the almighty *Creator* of all things, and settle your hash with *Him*; for thus, and

thus *only*, hath *He* seen fit to ordain all the mighty works of His almighty hands! You who have any objections, just make them at *headquarters*, and propound a better plan. You object against a *fact*, against what *is*, against what *you your own selves* and all other living beings perpetually *experience*. This huge earth, and these huger sun and stars, these great mountains, plains, rivers, and oceans, these trees, vegetables, flowers, fruits, grains, and animals, along with these wonderfully constructed bodies, with all their bones, muscles, tissues and organs, were not made for nought. An arrangement thus stupendous has its commensurate *purpose*. Matter was obviously created solely to supply organs for the manifestation of *mind*; and most admirably does it subserve this purpose. The all-wise Architect and Engineer of this universe undoubtedly understood Himself and His work when He saw fit to create matter, and then fashion it into organs for manifesting functions. If He could have devised any better plan, He would doubtless have done so, but "foresaw" that this was the most feasible and the best. We might wonder how, after having created that limestone rock, He could make from it these beautiful and serviceable bones and joints, teeth and nails; but *He does* it, and we, yes *you*, self-stultified objectors, are the gainers; for it makes all its possessors happy.

How LUDICROUS to see otherwise sensible men, after eating a breakfast "material" in more senses than one, use material lungs, throats, mouths, muscles, and brains to decry materialism, then go to a "material" home to recuperate with a "material" dinner, only on returning to take a "material" dose of "blue mass," and consider themselves smart and *consistent*? Is it not, at least, ungenerous to use material organs for abusing materialism? Let none preach against what they cannot do without. Stop objecting against material organs, or else stop *using* them. Yet you had better learn how to "use them as not abusing them," with gratitude to their Divine Author. And let ministers and people shout eternal hosannas for an ordinance which thus introduces us upon the plane of eternal existence and enjoyment!

THE AUTHOR is a positive believer in immortality, and as much expects to live after the death of his body as he expects the sun will rise to-morrow morning; and yet he as firmly believes in this doctrine of mutual sympathy between the body and the mind.

At all events, the latter is an experimental *fact*, of which all organized beings are perpetual living attestations. If this sympathy between the body and mind proves the materiality of man and the death of the body and soul together, then that doctrine is true; for this sympathy is certain, yet this inference is false.

OBJECTORS beware lest you make converts to this materialistic doctrine you oppose. When you convince an intelligent man that this alleged rapport between the body and mind really does prove the death of the soul with that of the body, you make him a materialist. Does that benefit him or you? The *fact* of such a reciprocity still exists all the same, while you become propagandists of materialism. The less materialism you infer from this great institute of Nature, and the more you study and apply it to the improvement of the life, happiness, and morality of yourselves and fellow-beings, the more true sense and philanthropy will you evince.

Part IV. discusses this whole subject of materialism, immortality, &c., from first principles. Suffice it here that material organs are created, that they embody Nature's *only* means of manifesting each and all her functions, and that the reciprocity between all the existing states of all organs and their functions is both a necessity and a fact, and that either can be thrown into any given state by throwing the other also into its corresponding one.

30. — NORMAL ACTION ALWAYS PLEASURABLE AND RIGHT; ABNORMAL, PAINFUL AND WRONG.

SPONTANEOUS ACTION is the first law of all organs and functions. For this alone were they created. It is to them what gravity is to matter. Their repression is as impossible. Inaction is death for the time being.

TWO KINDS of action, normal and abnormal, are possible, and only these two. The former is their natural, legitimate exercise, the way they were created and ought to act; while all abnormal action is a departure from Nature, her perversion and outrage.

NORMAL action is *right*, in accord with the laws of their being, and the fulfilment of those laws,¹⁹ and always renders happy; ¹⁵ whilst all abnormal, unnatural action contravenes and infringes upon these laws, and thereby inflicts pain.²¹

THE PHYSICAL FUNCTIONS, when in normal action, create health, and are inexpressibly delightful ; while their abnormal action constitutes disease and sickness, and is always painful. All physical pain has this for its specific cause, and can be cured only by restoring normal action.

VIRTUE AND SIN consist in this identical normal and abnormal action as applied to the mental powers.

ALL NORMAL exercise of any and all our Faculties, selfish propensities included, is right, and makes us happy, because it is in accord with their natural laws, which it fulfils ; but all abnormal action violates these laws, and is therefore wrong, and causes pain.²¹ In fact, all virtue, morality, and goodness consist in such normal exercise of one Faculty or another ; while all sin, vice, wickedness, and wrong doing whatsoever, is but this abnormal use of one or another of our primal powers. It matters not whether this perverted action appertains to our moral or our animal Faculties, for the wrong action of the moral is quite as sinful, and causes quite as much vice and misery, as does that of our Propensities. Right and wrong inhere not in any of the Faculties we exercise, but in their *kind* of action, whether it is normal or abnormal. Conscience and Devotion, exercised wrongly, are quite as sinful, and cause quite as much misery as the perverted exercise of any of our animal Faculties.

THIS DEFINITION of right and wrong, holiness and sin, virtue and vice, goodness and badness, is fundamental and universal. Not one single Faculty, exercised normally, can, by any possibility, be wrong, or cause unhappiness ; nor any abnormal action be right, or make happy.

THIS TEST and touchstone of all our actions and feelings is very simple, but very sweeping, and absolutely infallible, and when applied to all we say, do, and are, becomes a correct rule and guide of all human conduct. Its practical importance demands sufficient illustration to render it fully understood.

NORMAL LOVE between two who have a right to exercise this divine sentiment towards each other, is as proper, right, and virtuous a sentiment as Devotion ; but exercised illegitimately, and for one you have no moral right to love, is wicked, and causes pain. Devotion exercised in worshipping the true God makes worshippers better and happier ; yet exercised as among the An-

cients, in Bacchanalian revels and promiscuous venereal indulgences, was wicked, and made worshippers only miserable. Paul verily thought he was doing God service in persecuting Christians, yet was perpetrating a great wrong conscientiously. His *thinking* he was doing right did not make what he did right. A doting mother, from pure love of her child, gives it medicine enough, or the wrong kind, which kills it, or so manages it as to kill it. Resisting the right, and defending the wrong, is the normal action of Force, and therefore right; while opposing the right, or urging on the wrong, is an illegitimate action of this Faculty, and inherently wrong. Fighting aright in a good cause is right; for a bad object, wrong. Giving money to a drunkard only to enable him to get still drunker, wrongs him by making him worse and still more miserable; whereas, giving to a needy fellow-mortal is right, and makes givers and receivers the happier. Mocking a good old man, as naughty boys did Elisha, was wrong, and caused pain, because an abnormal use of Imitation; whereas, patterning after other people's virtues is its right exercise, and makes all concerned happy. Reasoning aright and devising ways and means to effect proper objects, is right; while all arguing against truth and for error, as well as devising bad ways and means to effect wrong ends, is wicked, because an action of Causality contrary to the natural laws. Locality, when it keeps the points of the compass, directs your steps whither you would go; but when, by its reversed action, you become "turned," it directs you wrong. All abnormal action produces unhappy, perhaps disastrous, results.

CONSCIENCE, exercised normally, creates the pleasurable consciousness of having done right; abnormally, the upbraidings and compunctions of a guilty conscience. Normal Ambition creates delightful emotions when we are praised for good deeds, but when reversed, shame. Normal Friendship takes pleasure in cordial intimate sociabilities; but abnormal lacerates us when friends separate, die, or turn traitors. Normal Parental Love takes pleasure in seeing children grow up healthy and good; while their depravity, sickness, and death reverse and pain it. Similar illustrations apply to all our other functions, the natural action of all of which is pleasurable and virtuous, because it fulfils their natural laws; while their abnormal action violates their laws, and is there-

fore both painful and sinful. Our very first means, therefore, of happiness and self-perfection consists in learning and fulfilling that *normality* of the functions given throughout this work.

READER, short and simple as this cardinal principle may seem, it governs every single function of your life, and is the determining condition of all right and wrong, and consequent cause of all happiness and suffering, mental and physical; so that, by following their natural direction, we shall avoid sin and its penalties, and render ourselves virtuous, and therefore happy, — a principle too intrinsically and practically important to be thus cursorily dismissed, and therefore laid over for reconsideration. Simple as it is, it discloses one of the first and most fundamental conditions of morality and happiness, as well as causes of sinfulness and suffering, which exists. Let all, therefore, to whom pain is painful and enjoyment desirable, study out this normality of all the functions, and fulfil it. Nor can too much pains be taken to give the faculties of children this natural action, or, rather, to RETAIN that normal action which unperturbed Nature imparts at first, and does so much to perpetuate.

31. — HARMONIOUS ACTION THE LAW, ANTAGONISM ITS BREACH.

ALL FUNCTIONS are ordained to work *together*, all *helping* to carry on their common ends. Their "union is their strength," their conflict disastrous. Thus heart and lungs are made to work *with*, not against stomach and liver, in nourishing the body; and head *with*, not opposed to, hands and feet, in executing measures. Often one powerful bodily effort requires the *combined* tension of every muscle of the body, every power of the mind. What marvels such combined action often effects! Could single powers begin to effect them? Each contributes its mite, *and tones up all the others*, a law we shall have frequent occasion to apply. Thus Causality works far more efficaciously when Conscience helps and inspires it in defending a good cause, than it could work without its aid, or with it in antagonism, by condemning it for pleading on the wrong side. A conscientious lawyer, noted for successfully defending "hard cases," got around this barrier thus: On first seeing a client, he would say to him, —

"Don't you *dare* tell me that you are guilty, or I'll drop your case at once. If you are, I don't want to know it. The law says you are inno-

cent, and I *presuppose* that you are so, till it has proved you guilty. If you confess your guilt so that I *know* you perpetrated the crime they charge against you, I will not stultify my own sense and moral sense by trying to clear you. Tell me only what they can *prove* against you, and what you have to say and prove in your own defence, and I'll work with all my might to clear you, if you'll *pay* me."

LET BOTH HANDS AND FEET go together the same way, and work together on the *same* thing; not your right foot going east and left west, or feet going down and hands up. The *harmonious* action of all the Faculties constitutes a fundamental condition alike of perfection and happiness; whereas, contention among the Faculties is both destructive of all enjoyment, and the cause of intense mental agony. A few illustrations:

DURING A REVIVAL of religion in New York, in 1842, a gay and volatile young lady became seriously impressed, but loved the pleasures of the world too well to yield to her religious convictions. Yet so firmly had they fastened upon her, that her resistance only increased them. This state of mind lasted several weeks; and in describing the feelings consequent on this conflict of her moral with her worldly Faculties, she expressed herself to this effect: "I could never have believed, unless I had experienced it, what extreme agony of mind one can endure, and yet live," — all because her Faculties conflicted with each other.

A YOUNG WOMAN who became thoroughly enamoured of a young man, whom she at first supposed every way worthy of her confiding and tender love, when finally convinced that he was sensual, depraved, and every way unworthy of her, could not, however, cease to love him. Her high moral feelings forbade her marrying him, yet her social affections still clung to him with all the yearnings of a woman's first and only love; and this contention between misplaced but deep-rooted affection on the one hand, and her high intellectual and moral Faculties on the other, broke down one of the very best of constitutions; rendered one every way capable of being exquisitely happy in the domestic relations most wretched; and continued, in spite of long separation, the entreaties and remonstrances of friends, and in opposition to her own convictions of interest and duty, till it made a complete wreck of a truly magnificent woman. This internal warring of the affections with the other Faculties is like pulling one limb one way and another the other, till the ligaments which unite them

are torn asunder. Many readers have doubtless experienced, in their own souls, the indescribable anguish caused by this clinging of their affections to those who were repulsive to their other Faculties; and how many others will be able to call to mind pitiable victims of the physical and mental disasters consequent on this internal warfare. How many likewise, who, while deciding whether they should crown their love by marriage, have had their pride wounded by being required to demean or humble themselves more than their proud spirits would bear, yet were unable to tear their gushing affections from their loved one, although rendered most miserable by this contention between their pride and their love.

ANY YOUNG MAN who loves his independence, yet loves money and goes into business where he is made a menial, with the certain prospect of becoming a partner and getting rich, who wants the place, but hates the service, may submit for a while to dictation, but will find this struggle between liberty and interest a perfect torment to his troubled soul. Have not many readers had experience in this, or some other kindred illustration?

A GODLY CLERGYMAN who preached where I was brought up, and to whom I looked up as a model of perfection, was rarely ever seen to smile, and frequently remarked that the Saviour was often known to weep, but never to laugh. From this, joined with a very rigid religious education, I imbibed the notion that it was wicked to laugh or joke. Still Mirth would out, when Conscience would upbraid till a promise of reform gave a truce. But traitorous Mirth often broke the armistice, and again continually embroiled the contending Faculties in civil war. Year after year this internal warfare went on without cessation, till Phrenology separated the combatants, and restored peace by telling Conscience that it was not wrong to laugh, but was right, because Mirth is a primitive Faculty of the mind, and should therefore be exercised, besides being every way promotive of health and enjoyment. I have suffered from a broken limb, endured a dislocated joint, and been agonized by other ills; but the like of this civil war I never experienced before or since. And all from this antagonism of the Faculties, which grew out of ignorance and superstition. The exercise of every primitive Faculty is *right*, is necessary, provided it is exercised in conjunction with all the others, and normal.³⁰

THOSE WHOSE FORCE is subject to quick and powerful excitement, yet whose large Conscience condemns them therefor, endure more than the pains of purgatory by this quarrelling of Conscience with combativeness. Or perhaps Appetite and Duty quarrel, the former insisting on eating more than the latter will allow; so that a guilty Conscience continually upbraids for this violation of a duty. Reader, does not this illustration come home to your own experience? Do not your own Conscience and Appetite often struggle for victory, each at the same time inflicting deep wounds upon the other, thus lacerating your guilty soul with more than ten thousand stripes? Or, perhaps Kindness and Justice, or Justice and love of money, or Devotion and the propensities are at swords' points, each thrusting daggers through the soul more dreadful than death itself, or, at least, sufficient to mar all the pleasures of life. "A house divided against itself cannot stand." "Happy is that man who condemneth not himself in that which he alloweth," and, it might have added, miserable those who do.

HAPPY ARE THOSE whose Faculties work together in the silken chords of harmony; whose Conscience approves what Appetite craves, and thereby sweetens the rich repast; whose love of family and money each redouble the energy and augment the happiness of the other; whose Parental Love is gratified by seeing children growing up in the fear of the Lord, and walking in the ways of wisdom; who love wife without alloy, and see no blemish in her, but every perfection to heighten the action and the pleasure of all the other Faculties; whose love of justice and of money delights to acquire it, in order to discharge all pecuniary obligations; whose hopes and fears never oscillate; whose intellectual convictions of truth never clash, but always blend with all their feelings and conduct; whose tastes are all gratified by their occupations and associations; whose friends have every quality liked, and none disliked; in short, all of whose Faculties move on in harmonious concert to attain one common end, desired by all, delightful to all, and who are completely at peace with themselves. Their cup of pleasure is full to its brim, unmingled with a single drop of bitterness or atom of pain. They are holy and perfect. May every reader see this law, apply this law, enjoy this law, and your children and household along with you!

AND YET the most effectual means of subduing dominant Propensities, is to array the Moral Sentiments against them. Whenever they become perverted, pitting the latter against them in mortal combat will reform them if they can be reformed, besides being the severest punishment. Yet this clashing should not occur except as a means of reform; and when it does, its cause should be ferreted out and corrected. When all the Faculties co-operate in harmony with their legitimate functions, none of this clashing can occur; and when it does, let the guilty sufferer—even this very suffering implies guilt,²¹—ferret out the cause. Let him see which Faculty has broken from its normal function, or whether both have strayed from the fold of virtue, and restore the wanderer. In other words, let no Faculty be found arrayed against the legitimate function of any others, but only against their abnormal or vicious manifestation, and then for the express purpose of effecting reform.

THE INCREASED POWER imparted to all the Faculties by this co-operation, is an additional advantage derived from it. Thus, when Caution and Force oppose each other, they produce that mental uncertainty, and consequent irresolution, which palsy every effort and blast success; but when they blend together, they give that energy and prudence combined which render success well nigh certain. Let Causality lay hold of the same measure, and devise a well-concerted plan for this combined prudence and energy to execute; let Kindness draw in the same traces; let this well-concerted and efficiently executed plan seek the happiness of mankind; let Conscience sanction it, and urge on every other Faculty to labor for its accomplishment; let Hope cheer on all with bright prospects of abundant success; let Expression and all the other intellectual Faculties contribute their resources, and find ample employment in furthering this labor of love; let Firmness keep them stable to their work, and prosecute this well-laid scheme till it is completely effected; let Ambition, Piety, and all other powers of soul and body combine together to carry on and carry out the noble purpose, and each, besides contributing its quota of help, also increase the action of all the others. Union is strength: division is weakness. How vast the augmentation of power derived from this harmonious co-operation of all the Faculties! If any Faculty refuses to come up

to the work, besides the absolute loss of its own power, its absence weakens the hands of all the others. This concert is like concord in music, while conflict is double discord. Frequently a single Faculty will completely nullify the combined efforts of all the others. But enough. The principle involved is clear, is forcible. Let every mother apply it. Let every child be trained in view of it. Especially let all those Faculties which the business or the pleasure of any one requires should act in concert, be trained accordingly, and a vast augmentation of success and happiness will be the delightful result.

SEVERAL OTHER "FUNDAMENTAL PRINCIPLES of life" belong to this chapter, which, however, will come in appropriately under other heads. These must suffice here with which to begin.

READER, please review these life principles, the value of life:¹⁴ the amount and variety of enjoyment it renders possible:¹⁵ the importance of improving and wickedness of injuring it:¹⁶ the day-by-day our daily enjoyments:¹⁷ the constituent entity of life, namely, mind:¹⁸ and its government by natural laws,¹⁹ which are divine *commands*,²⁰ enforced by pleasures and pains,²¹ which are self-acting,²² and both a warning and a restoring process,²³ in which all should be educated.²⁴ Are these its doctrines true that all functions are manifested by organs?²⁵ That all existing organic states affect their functions,²⁶ and all functional states their organic; that all pleasures improve, while all pains impair our organism;²⁷ that all abnormal action is sinful, and normal virtuous;³⁰ and that our Faculties must work *together*?³¹ Are they important? Do they not constitute a deep, broad, solid, philosophical formation on which to erect that superstructure to which we next advance?

CHAPTER II.

PHRENOLOGY: ITS PRINCIPLES, PROOFS, FACTS, ETC.

SECTION I.

THE CONSTRUCTION OF THE HUMAN MIND.

32. — DEFINITION AND EXPLANATION OF PHRENOLOGY.

WHAT IS IT? is the first question asked by every intelligent mind touching whatever subject may be propounded for its investigation; and IS IT TRUE? the next — questions we now propose to discuss.

WHAT IS PHRENOLOGY? In what does it consist? What are its fundamental principles?

TRUE OR FALSE it must necessarily be. If true, it is so because it constitutes a part and parcel of Nature, and expresses those first principles, in accordance with which all forms of life are created. If true, it must dovetail in with every other natural truth; but if untrue, it must needs conflict here, there, everywhere, with Nature's known laws and facts. This starting point is so obviously a *basillar* test of *all* truth whatsoever, as to require no proof, not even illustration.

DOES PHRENOLOGY, then, harmonize or conflict with universal Nature? Surely, every intelligent mind can soon decide this test question correctly. We proceed to give both its principles and facts. Please note, as we proceed, whether they expound or contradict Nature.

PHRENOLOGY, derived from two Greek words, *φρόν*, mind, and *λόγος*, discourse, or treatise, consists in certain *cause and effect* relations existing between particular *developments and forms of the brain*, and their corresponding *manifestations of the mind*; thereby disclosing the natural talents and proclivities of persons from the forms, sizes, and other organic conditions of their heads. It shows that one form of head indicates kindness, another justice, a third cunning, a fourth reason, and still other forms

this kind of memory, or deficiency in that, or this natural gift, and that virtue; that, in short, other things being the same, the different shapes of the heads of different persons accompany and indicate their peculiar predispositions, talents, and special tendencies of mind. It consists of the following fundamental natural truths:—

1. THE MIND IS COMPOSED of primal FACULTIES, each of which in action, creates and manifests one specific *class* or kind of function; just as that of one organ of the body creates and manifests vision, another digestion, a third sensation, &c.; that, for example, one Faculty, called Appetite, creates a relish for food, including hunger; another Faculty resists and drives; a third reasons and plans; another gives one kind of memory, and other Faculties other kinds, &c.; and that, therefore, the mind consists of just as many of these elementary powers as it puts forth distinct classes or kinds of mental operations.

2. EACH MENTAL FACULTY acts only by means of one particular *portion* of the brain, called its *organ*,²⁵ just as that of sight acts only by means of the eyes; and, therefore, the brain consists of as many of these organs as the mind does of primary Faculties.

3. THE SIZE of each of these organs is the larger or smaller, other things being the same, in proportion as its Faculty is the stronger or weaker. For example, when A. is remarkably kind and sincere, while B. is unkind and cunning, A.'s head will be correspondingly full where the organ of Kindness is located, but deficient at Secretion; while B.'s will be minus at Kindness, yet full at Secretion; when C.'s forehead is broad, high, and projecting at its upper and lateral portions where Causality is located, but hollowing in its middle, that is, at Eventuality, while D.'s projects at its centre, yet is narrow and sloping at Causality, C. can reason clearly and plan well, but forgets facts, and what should be done and said; while D. remembers everything he hears, reads, sees, and does, yet is a poor thinker and planner; and of course the shapes of the foreheads of all persons show in what degrees each possesses and lacks this intellectual gift and kind of memory and that; one shape of the head indicating mechanical ingenuity, and another shape the want of it; one shape accompanying superior, and another inferior speaking talents;

and therefore all the mental peculiarities and talents of all persons are indicated by the respective *forms of their heads*.

IT DISCLOSES MOTIVES, or the strength of the various mental *Faculties* of this person and that, their special talents, inclinations, tendencies, predispositions, temptations, desires, and motives, rather than their actions themselves; for few *appear* to be precisely what they actually are. Men may *be* one thing, yet *do* quite another; and many may do the same charitable act, each from a different motive — one from kindness, another ostentation, a third to get custom, &c., while twenty others may refuse to give, one from poverty, a second from meanness, and the others from as many diverse motives. An extremely fond mother drowned her darling boy because none would give her work enough to keep herself and him from starving and freezing; yet she had large Parental Love and small Destruction. She drowned him to end his misery, and out of pity, not cruelty. Now Phrenology goes below actions to their *mainsprings*, and discloses innate *proclivities*, instead of specific actions.

A PRIORI PROBABILITY is stamped on this theory. Nothing about it is Utopian, or far-fetched, or chimerical; but, instead, all is in accordance with whatever we know of man and Nature. It has a reasonable, common-sense aspect, which at first sight commends itself to the hard sense of those who possess this rare gift.

IT IS EASILY UNDERSTOOD, as are all of Nature's truths, by child and adult. One instinctively *sees and feels* it to be true, a *fact* in Nature. It is but another phase of that *natural expression* of character by which all men everywhere proclaim their specialties by their general aspect and mien; by which we know philosophers from fools, and good persons from bad, at first sight, just by the way their looks strike us.

"OTHER THINGS," such as their Temperaments, education, surroundings, habits, states of health, parentage, &c., which go to make up character, will be discussed in their respective places. We proceed to give a fuller and more complete statement and examination of these Phrenological principles.

33. — THE STRUCTURE AND ELEMENTS OF THE MIND.

THE CONSTITUTION OF MIND has challenged and received the attention of the most gifted geniuses of the human race, as far up and back as human history has been traced. And well it may; for in it all human interests centre. The mind constitutes the man.¹⁸ All else is incidental; this alone is primal. Whatever man does and is, proceeds from and depends upon it. All virtue and vice inhere in this identical mentality; that being virtuous which conforms to its normal action, and that vicious which departs therefrom.³⁰ All right consists in its right exercise, and all wrong and sin in its wrong action. It makes and is the man, and constitutes life and all its functions.

A CORRECT ANALYSIS of this mind, therefore, becomes our most important means of happiness and virtue, of avoiding errors and ills, and living true human lives. In comparison with its utilities all others sink into insignificance.

AS A PHILOSOPHY, too, and as a subject for human research, it towers as far above all others as mind surpasses all else terrestrial.

DR. THOMAS BROWN argues that the mind consists of but a *single* power, and that all our various mental operations are produced by this one entity in *different modes* of action; that sight is this mind in a seeing state, hatred the man in a hating state, reason this same mind or man in a reasoning state, &c. Most metaphysicians, and even Gall among them, maintain that the mind is one indivisible, homogeneous substance.

"In my opinion there exists but one single principle, which sees, hears, feels, loves, thinks, remembers, &c. But this principle requires the aid of various material instruments, in order to manifest its respective functions." — *Gall*.

STEWART, if not the first, at least the second ablest of them all, classifies the mental Faculties thus:—

"1. INTELLECTUAL; 2. ACTIVE POWERS. The intellectual are,—1. Consciousness; 2. External Perception; 3. Attention; 4. Conception; 5. Abstraction; 6. Association; 7. Memory; 8. Imagination; 9. Judgment and Reasoning. The Active Powers are,—1. Appetites; 2. Desires; 3. Affections; 4. Self-Love; and, 5. the Moral Faculty. THE APPETITES are Hunger, Thirst, and the Sexual. The Desires are,

Desire for Knowledge, or Curiosity; for Society; Esteem; Power, or Ambition; and Superiority or Emulation. The Affections are the benevolent and the malevolent. Among the benevolent are parental, filial, and kindred, Love, Friendship, Patriotism, Gratitude, Pity, and Philanthropy." — *Stewart's Works*, Vol. III., pp. 380, 381, 412.

DR. CHARLES CALDWELL, a deep thinker, and the first American lecturer on Phrenology, argued in the same way, while George Combe thought "it extremely difficult to give a satisfactory answer to this inquiry," yet "treated the Faculties as distinct mental powers," meanwhile giving the arguments on both sides. This point is so *fundamentally* important as to demand a scientific solution.

DOING DIFFERENT THINGS SIMULTANEOUSLY proves that whatever executes them is plural, not single; for how *could* one indivisible entity be doing different things at the same instant! How could one homogeneous mind be in different moods all at once! How could the same personality be looking at a friend while he loved him, or love, behold, and then talk with him all together! If this theory were true, no speaker could think and feel simultaneously, or feel the pain of a wound while looking at it, for either would stop the other; or strike a hated dog to save a bitten child beloved; whereas, we *can* see the perforating needle *while* feeling its sting; *can* see our friend whilst loving him; can be, at the same instant, both devising and executing; can be walking, and talking, and seeing, and feeling, and reasoning, &c., simultaneously; and as these require each the exercise of the mind, it follows that these various classes of functions, and, by a parity of reasoning, that *all* the different classes of mental functions are performed by as many different *Faculties*, several of which can be in simultaneous action. The physical impossibility of one entity seeing and hearing, loving and hating, fearing and worshipping, and doing many other things at the same instant, is apparent, and yet all are perpetually doing ever so many things together. The mind being a unit would compel us to stop exercising all other functions the moment it commenced any new one; yet what kind of a life would that be which consisted in only one function at once! How could we accomplish anything without desiring it *while* using the means to attain it! Desire and effort must needs be simultaneous. And various kinds of effort must be going for-

ward *conjointly*. I desire to produce a given effect upon my audience. To do this I must think, feel, talk, remember, gesticulate, digest, and be doing a thousand other things all *together*. Even the simplest result one can name is effected by many primal operations combining to effect it. Is the mind like a stringed musical instrument, several and even all the strings of which can be vibrating at the same moment, or like a wind instrument, all previous sounds of which must cease before it can commence any new sound? All experience, all philosophy, any and all aspects of this problem attest that the mind actually *does* put forth a great number of very different mental operations *simultaneously*, and therefore consists of a corresponding number and variety of different primal *powers*, each acting independently of all, or in conjunction with any number of the others, as occasion may require.

DREAMING PHENOMENA DEMONSTRATE the plurality of the mentality. All of them *leave out* constituent *parts* of all waking mental operations; because only a few of these primary powers are in simultaneous action, the rest being sound asleep. One or more of the intellectual powers only are awake. Memory of facts dreams the most, but always dreams incoherently, because the other Faculties are asleep. Fear and Eventuality are the most inveterate dreamers in conjuring up frightful incidents. Love and Eventuality dream quite often, yet leave out all the other Faculties. Reason sometimes dreams of arguing points and originating ideas; but all dreams are characterized by "outs," as jockeys say. Now, if the *whole* mind worked and dreamed *as a unit*, how could its dreaming always be characterized by these *deficits*? Every dreamer, in analyzing his own dreams, will find demonstrative evidence that the mind, while dreaming, acts in detached *parts* — acts by separate *Faculties*, not as one indivisible whole; for this is *the determining* question. Every discriminating reader who applies his own common sense to any dream he ever had or will have, must see that at those times the mental entity acts by isolated *sections*; operates in detached *parts*; works exactly as it would work in case it were composed of primal Faculties acting separately, but not as a unit.

PARTIAL GENIUS proves that the mentality must consist of a diversity of primary powers, some of which, by being stronger

in one than in another, cause this diversity of talents. The difference between Howard and Nero, Washington and Raphael, Shakespeare and Franklin, Benjamin West and Patrick Henry, is *toto cælo* — a difference education could never create, nor even essentially modify. West loved painting so passionately that he defied parental frowns and scholastic chastisements, and secluded himself in his garret that he might indulge it; besides executing some of his most beautiful designs without instruction, while yet a mere boy. Men and women differ from each other more in their intellects and feelings than even in their countenances, and that from infancy, and in opposition to circumstances. Every individual, as compared with any other, illustrates it.⁷ The very proverb says, "Poets are *born*, not made;" which is equally true of artists, orators, mechanics, divines, naturalists, Phrenologists, and all endowed with any and all *specialties* of mind and character. The general good demands this diversity, in order that different persons may excel in different spheres, and the descent of specific talents and traits from parents to children proves that these differences are *constitutional*, not educational, nor circumstantial. If this mentality were homogeneous, like white paper, on which circumstances write all these existing differences, of course similar circumstances must always produce similar talents and characters; whereas, similar educations often produce *opposite* traits, and opposite surroundings similar ones. These differences are quite like the different instincts of animals. As the eggs of geese, ducks, hens, quails, robins, hawks, turkey-buzzards, &c., all hatched and reared together, produce fowls just as different as if each had been hatched and *raised* by its own parents, because differing by *nature*; so different persons *inherit* different gifts and predispositions from their parents. Yet how could all these *innate* differences be effected through one *single* entity?

AN INDIVISIBLE ELEMENT must needs be equally strong or weak *in all things*; and in this case every talent must be as strong or weak by Nature as is every other talent, and every feeling as every other feeling; and likewise every talent as strong as every feeling, and feeling as talent — a doctrine practically contradicted by every human being and animal, as compared with themselves and all others. Every one's memory disproves this in remembering some things perfectly well, but others poorly: such as in

never forgetting faces nor remembering names; always recollecting ideas, but always forgetting words, or *vice versa*, *ad infinitum*.

OUR DIFFERENT-FACULTIES doctrine, however, accounts perfectly for all these and all other different talents and predispositions, by one Faculty being *created* stronger and another weaker in different persons, and in the same person, and as such transmitted thus from parentage to progeny.

PERSONAL CONSCIOUSNESS proves this plurality of the Faculties in this feeling, experienced by all:—

“I didn’t do that; but one of my propensities, breaking away temporarily from under my control, did it.”

PARTIAL INSANITY proves this same mental division by precisely the same line of argument just applied to partial genius, which we need not repeat. In short, this separate-Faculty doctrine corresponds with, and accounts for, all the various phenomena and facts of the mind, all of which this one-entity doctrine antagonizes. We will try to make this fundamentally important principle clear by the following illustration:—

EVERY COMPLICATED MACHINE consists of individual parts, each of which is necessary to the grand result attained by all collectively. One part furnishes its motive power; this wheel, with this and that row of cogs, receives and modifies this power, and distributes it to others, till it reaches and executes the end designed. This grand result is effected by the *united* action of each part *co-operating with* all the other parts. All these isolated parts, taken separately, neither constitute this machine, nor fulfil its function; while their *embodiment*, by each being put into its own specific place, so that all work in *conjunction* with all, do both.

THIS PRINCIPLE of embodying several organs and functions into a one entity, expresses Nature’s uniform mode of carrying forward each and all her operations. Thus the body of every human being, every animal, is composed of individual parts—head, heart, lungs, liver, stomach, bowels, many bones, muscles, nerves, tissues, eyes, ears, nostrils, cells, &c., almost *ad infinitum*; all so united that they work *together*, and thereby execute the function called life or existence. Could any *one* element effect all this? Each part is fitted by its construction to accomplish one, and only

one, portion of this grand result. The eyes see, and do nothing else; the lungs renew the blood by breathing, yet even this requires motion, which muscles, aided by nerves, bones, &c., alone can effect, like wheels within wheels, all *collectively* working out the function of breathing.

EVERY ANIMAL, fish and fowl, insect and worm included, all that grows and whatever exists, is composed of this *combination* of parts acting collectively. This is alike a matter of fact, and a necessity. In the very philosophy and fitness of things, a complication of functions must needs be executed by an apparatus equally complicated. How *could* each and all our bodily functions be carried on by means of any *one* organ, however ingeniously constructed? Then how could these complex mental phenomena possibly be carried on by one simple indivisible substance, any more than could all the bodily functions by any one bodily organ? Yet how simple, how efficacious is Nature's universal mode of conducting all her operations by means of a *series* of instrumentalities, all working together *with* all in effecting one common result!

THE MENTALITY must therefore needs be executed by a like *diversity* of powers. Shall a *modus operandi* thus universal in fact and necessary in philosophy, appertain to all *else* in Nature, and not else to the *mind* — that most complicated function of all! Why should not a principle of execution found indispensable in effecting all other results be even more essential in manifesting all that variety and complication of functions we call mentality? All the facts of Nature, and all correct reasonings, both inductive and deductive, concur to prove that the mind is, and must needs be, composed of numerous *primal powers*, each of which executes one class of the mental operations, and another mental Faculty another class.

THE ENTIRE ECONOMIES of Nature support this idea, that the mind is not one indivisible substance, but that it is made up of isolated powers. What single thing but is *compounded* of primal elements in various proportions? Is ever any vegetable or tree, ever any rock or soil, any fruit, any material thing whatever, composed of only one primal element? None. "No, not one." Then why should the mind be? Why should not Nature employ the same principle in constructing the mind which she has

employed in making everything else, namely: that of *embodying* many primal elements into its manufacture. The obvious inference is that, since everything else in Nature is made up of different substances united in various proportions, therefore the *mind* also is constructed by the union within it of various primal elements. Both this reasoning and its conclusion are absolute, in proof that our mental entity, essence, or personality consists in, and is created by, all those various primal *capacities* which perform our respective functions.

34. — DEFINITION AND DESCRIPTION OF A MENTAL FACULTY, AND OF CONSCIOUSNESS.

WHAT AM I? Composed of what? What makes us our own selves? What gives you your youth, self-hood, and individuality? We have seen that the mentality constitutes the man,¹⁸ yet what constitutes this mentality?

PRIMAL MENTAL FACULTIES. Our *capacities* for doing, thinking, feeling, &c., compose our interior entity. We differ from each other wherein, because, and in proportion as, our primal mental *powers*, those *fountains* of all things human, differ. Though all have some of each Faculty, which secures this general resemblance of all man to all others, yet the *degrees* of power in each of these Faculties differ in each, which causes the differences between men.^{7, 33} As Liebig proves that all animals and vegetables are composed of precisely the same material ingredients or elements in different *proportions*; so you and I, O Man, are made up of our primal mental *powers* of thought, feeling, memory, &c. As a factory is composed, not of its productions, but of its producing *instrumentalities*, such as wheels, belts, building, tools, &c., so our own existence inheres in these *mental FACULTIES*, the action of which produces all the complicated functions of life. Reader, can you understand *this* definition of life, of personality?

THAT MENTAL ENTITY, the action of which creates one distinct or homogeneous class or kind of functions is a Faculty of the mind. Thus, loving food, loving life, loving children, loving praise, worshipping God, sympathizing with distress, using tools, doing as others do, reasoning, remembering this, that, and the other, is each a distinct homogeneous class of mental operations, which is therefore executed each by its own specific mental Faculty.

Whenever we ascertain that a particular kind of mental function is exercised, having for its object to carry forward a specific end indispensable to human existence, we may know that there exists a primal Faculty which executes it; and the existence of any Faculty presupposes a corresponding *sui generis* class of functions. Upon submitting the Faculties analyzed in this work to this test, each will be found to execute such a specific class, directed to a *sui generis* end; and every supposed discovery of any Faculty which does not conform to this definition is spurious.

A COMPLETE DEFINITION and description of a mental Faculty is that —

1. Which creates a *distinct class* or kind of functions :
2. Which appears or disappears *earlier or later* in life than others :
3. Which can act or rest, be healthy or diseased, strong or weak, *independently* of the others :
4. Which is propagated *separately*, and in different degrees of power.

EVERY MENTAL OPERATION we ever have had or can have; everything every one ever did or can do; every desire we ever have felt or can feel; every emotion, actual and possible; every gift and talent we ever have possessed or can possess; all we are and ever have been and done, or can do or become; in fact, our entire existence and self-hood, from first to last, throughout this life and the next, has or must come from the instinctive exercise of one or another of these primal Faculties. They are to our minds what our bodily organs are to our bodies; what the constituent elements of air are to air — that which makes them what they are, removing either of which destroys their identity. Every instinct is their creation, and but their outworkings. Thus, love of food is but the instinctive action of the primal Faculty of Appetite; that capacity which selects, relishes, eats, digests, and then appropriates food to the purposes of nutrition, hunger being only its beginning.⁹¹ So self-preservation is only the instinctive action of the Faculty of Vitativeness.⁷⁷ The cunning of the fox is but the instinctive action of the primal Faculty of Secretion; and thus of the other instincts. They are transmitted from parents to their progeny; and this causes that each-after-its-own-kind arrangement by which Nature classifies all her productions, and

puts and keeps each and all individuals in their own particular orders, generas, and species.³¹⁷⁻³²²

THEY ARE SELF-EXISTENT and indestructible, and therefore confer immortality!

THEY ARE LIKE A CLUMP OF FRUIT TREES of different kinds; one tree representing one Faculty and producing one kind of fruit, say the pear, another apple, another peach, &c., each having many limbs, and each limb many sub-branches, and each of these many twigs; and each limb, branch, and twig, of this pear tree, grafted with a different variety of pears — one limb with summer, another with fall, a third with winter, a fourth with spring, a fifth with butter, sixth with breaking, seventh with cooking, eighth with very acid, ninth with sweet pears, &c.; each branch and twig bearing its particular variety of pear, one Seckle, another Bartlett, a third Rostiezer, another Vergalieu, &c., so that all kinds of pears are growing on this pear tree, every kind of orange on the orange tree, of apples, peaches, &c., on each tree, and this entire clump bearing *all* the fruits known to man! Or thus:—

CLUSTERS of human institutions grow on each Faculty. Thus, on Acquisition grow saving, preserving, storing, housing, boxing, trading, commerce, markets, stores, merchandise, transportation, shipping, railroads, expressage, business, money, firms, banks, and many other like institutions and usages too numerous to specify, but all the outgrowth of this one acquiring element¹⁶³ — a principle every Faculty will be found to illustrate all through this work, and an aspect of humanity especially deserving the attention of all who love to trace out the *roots* and *causes*, as well as philosophies of things.³ This phase is to the mentality what Philology is to Language, only that it is immeasurably superior.

NOWHERE have these original forces, these fundamental powers of the human mind, been duly estimated. They are the motors, the producers, the accomplisners, the primal actors and executors of all things human. Further, they are but

THE HUMANIZED FORM of the primeval FORCES OF NATURE, and elements of matter; in fact, of all things whatsoever. Thus the Faculty of Force in man is but the human manifestation of that identical element of *power* in Nature which impels winds and tides; renders all her operations potential and resistless; enables

roots to push themselves through hard soil ; sap to expand bark ; capillary attraction to burst through hinderances ; and is Nature's great executor.¹⁶⁹ Dissolution and decay in Nature and Destruction in man constitute another of these forces,¹⁶⁶ and reconstruction, that is, growth in Nature and Construction in man another, &c. Indeed, all Nature is *made up* of these forces, and all her operations consist in their action. To consider just what they are is not our present purpose, because they are identical with those phrenological Faculties the exposition of which constitutes the framework of this volume. Everything that exists has some, however small a proportion of them all.

THE VERY LAWS of Nature herself are but another form of these identical Faculties.³ Thus Causation is alike one of these natural laws and mental Faculties. Protection is both an ordinance of Nature, and a primal Faculty of the mind we call Caution. Is there no specific analogy between the natural law of cohesion on the one hand, and of Friendship, including the general law of congregation, on the other? What is that retributive law of Nature which rewards its every obedience,¹⁹ and punishes every infraction,²¹ but that even-handed *justice* of which Conscience is the mental expression? The greatest good of the greatest number is another law of Nature and Faculty of the mind, which we call Kindness. Another law is expressed by Beauty, that of change by Eventuality, &c. We repeat, *every law* of Nature corresponds with some phrenological Faculty, and every Faculty has its counterpart in some one of the natural laws. Reader, have we not pushed this analysis of the Faculties far beyond all our predecessors?

CONSCIOUSNESS consists in the *embodiment* of these primal Faculties, so that they act *together*. Though each is an independent entity, and capable of isolated action, just as is one wheel of a complicated machine ; yet all of them, acting each by itself, could never constitute the mind, never fulfil its functions, any more than one wheel of any machine could constitute a machine. In order to become the mind, they require to act in their *collective* capacity, each contributing its individual function to that grand whole we denominate life. For example : —

A WATCH does not consist in all its parts *isolated* from each other, but in their *union*. As, after all of its individual parts are

made, and arranged in separate boxes ready to be put together, they do not constitute a watch till so collectively *embodied*, each in its own particular place, and performing its express office, each mutually acting and being acted upon by all its other parts, so that they *unitedly* execute its time-admeasuring function; so all these mental Faculties, acting separately, do not constitute the mind, which is made up of all these mental powers so *embodied together* that their *collective* action, each modifying all, and all being modified by the action of each, constitutes the mind, and executes all the varied functions of life.

THE DEFINITION OF THE MIND, therefore, is the *embodiment* of all its primary Faculties together into a one consolidated entity, in which all can act with all, or any with any, as existing occasion may require.

CONSCIOUSNESS has this same identical composition and definition.

We shall soon see by what means this embodiment is effected.³⁷

THE WHOLE SYSTEM OF PHRENOLOGY impinges on this identical proposition. Proving that the mind is a unity would upset Phrenology; while proving that it is composed of separate Faculties, proves this science; because every one of its special doctrines *grows out* of this, and that the brain is the organ of the mind.³⁵ All its other doctrines follow, as a necessary corollary, from these two. Proving that the mind is made up of primal Faculties, and that the brain is the organ of the mind, thereby proves that each mental Faculty must needs have its own specific cerebral organ, the size of which must necessarily admeasure its power of function. What objector to Phrenology is willing to sacrifice his intellectual reputation by confuting all the mental phenomena in arguing against this "Science of the mind!"

SECTION II.

THE BRAIN: ITS OFFICES, STRUCTURE, ETC.

35. — THE BRAIN THE ORGAN OF THE MIND.

SOME ORGAN must needs execute this mental function.²⁵

EVERY operation in Nature is performed by means of its own specific instrument. Who ever knew *any* function carried for-

ward without any organ, or except by means of its own *particular* organ? Never one. The entire policy of Nature is, an organ for every function, and every function performed always by its *own* organ, never by any other. Not one single terrestrial exception exists!

THIS IS A PHILOSOPHICAL NECESSITY, as well as a fixed fact. This entire order of things is founded upon this organic principle. Indeed, the sole use and adaptation of all matter is to furnish the materials out of which to fashion organs for functions, while the entire process of growth consists in *organizing* these materials, that is, of making *organs*, and fitting them for their respective operations. Who will stultify themselves by denying, who but must admit this to be a natural law, a fixed fact and principle of action? See it fully demonstrated in ²⁵.

SHALL MIND, then, constitute Nature's *only* exception to this law? Shall every one of all her minor operations proceed upon this organic principle, and not also this her major? Shall a law so obviously beneficial and indispensable everywhere else be omitted, ignored, and ruled out here? Could any good come from setting it aside? Or is Nature able to make organs for all her other functions, but not for her mental? The very supposition is preposterous.

SOME ORGAN, therefore, must needs, and actually does, execute this mental operation. Then *what* organ does this? Obviously, the brain.

HUMAN CONSCIOUSNESS, that highest tribunal of all truth, attests this fact. All anatomists, all metaphysicians, all mankind, take it for granted, or else furnish proofs of it. To enumerate its evidences would be superfluous, but that it is of *fundamental* importance in establishing the truth of Phrenology, which we propose to *demonstrate*, leaving no point doubtful, and omitting nothing to render the proof of this science absolutely conclusive. Among these proofs, either one of which is sufficient, are, —

1. A PART of our mental operations we know are performed by the brain. Thus sight is a mental function. That the eyes themselves do not see, but that they are the mere instruments of a seeing *power* which uses them for visual purposes, is rendered apparent by the fact that they may be perfect in structure, yet

inert in function. Thus they are as perfect structurally just after death as just before, yet this visual power which *uses* them before, leaves them inert at and ever after. Now, if this optical capacity inheres in the eyes themselves, why could they not see just as well after as before? At death the mind leaves the body. *Capacity* to see is one of the powers of this mind, as all concede. This mental capacity forsakes the eyes, thus leaving them inert, and useless. Hearing, tasting, sensation, and smell, are equally mental operations; yet that they are performed *in* the brain, and by *means* of it, is demonstrated by the suspension of any function whenever that nerve which connects its organ with the brain is severed; as also by the concurring fact that suspension of brain action suspends all these respective functions also, as in fainting.

SINCE A PART of the mental functions are thus executed by the brain, therefore *all* are; for Nature operates by general *laws*, not by piecemeal fractions. Whenever she carries on any *one* part of any given class of operations by any specific means, she executes the *whole* of that class by that same means.²⁶ As, when she sees by eyes sometimes, she sees always and only by them, and thus of all her other operations;³⁰ of course her performing a part of her mental operations by means of the brain is proof conclusive that all her *other* mental functions are put forth only by means of this same brain.

2. ALL CEREBRAL STATES similarly affect the mental operations.

ALL INFLAMMATIONS of the brain inflame the mental manifestations; whereas, inflammations in no other parts do this. Thus all inflammations of the heart, muscles, stomach, liver, bowels, limbs, &c., leave the mind comparatively unaffected; whereas, any and all inflammations of the brain exalt, inflame, or craze the manifestations of the mind.

FEVERS, as far as they inflame the body only, leave the mind as they find it; whereas, whenever they attack the brain, they derange the mind. Brain fever exalts the mental operations whenever, and as far as, it accelerates cerebral action; but stupifies the mind whenever, and just as far as, it surcharges and congests the brain.

LOCAL inflammations of particular portions of the body do sometimes derange the mental operations, because these inflamed

parts are in special nervous sympathy with the brain. Thus hysterics consist in an exalted and perverted state of the feelings, yet are consequent on certain physical ailments, because these affected organs are in perfect sympathy with the brain.³⁴⁴

SOFTENING of the brain, with its gradual weakening and final loss of the mind, as the brain decays, furnishes another proof that the brain is the organ of the mind.

ALCOHOLIC DRINKS, narcotics, and the like, whenever they increase the action of the brain, as during intoxication, accelerate the action of the mind, *delirium tremens* being consequent solely on supernatural brain action.¹²³⁻¹²⁶

MENTAL STUPOR, per contra, is caused by cerebral inaction. Whatever causes either, thereby likewise causes the other. A fall upon the head which presses any part of the skull in upon the brain so as to prevent cerebral action, suspends consciousness, and all the other mental operations, till, the instant this pressure is removed, as by trepanning, consciousness and the mental functions are thereby instantly restored.

Yet pressure upon no other portion of the body ever does this, while pressure upon the brain does it always. Why? Obviously, because the brain is the organ of the mind, whereas none of the other organs are.

ITS PHYSICAL POSITION constitutes another of these proofs derived from adaptations. It is located on *top* of all in man, and in *front* of all in animal, reptile, fish, insect, worm, &c. All organs are located where they can subserve their specific offices better than if located anywhere else; that is, in *adaptation* to their office. Thus feet are placed just where their position can help them execute their office better than if located anywhere else. They are also placed lowest down of all, and their function is also the lowest. Yet as we rise upward in surveying the body, we find the functions of all organs more important in proportion as they themselves are located the higher up. Thus the organs in the lower part of the body are higher up than the feet, and their functions more necessary; for while feet are handy organs, we yet can live without them, but cannot live long without those lower bodily organs, nor as well with them deranged as with disordered feet. Yet heart and lungs, located still higher up, perform functions still more important, their perpetual action

being indispensable to our terrestrial existence. They are the highest up in the body, and their functions are the most absolutely necessary.

THE BRAIN, then, located highest up of all, must therefore put forth by far life's most eventful function, which is obviously the mental, — that for which body, and all else in Nature, were created.¹⁸

ITS FUNCTION IS MOST IMPORTANT. All the nerves, confessedly the agents and messengers of the mind, ramify from it out into all parts of the entire body. This alone demonstrates that the brain is the organ of the mind — man's highest organ fulfilling his superlative function.¹⁸

NO OTHER office is performed by it. We know just *what* office each of the other physical organs fulfils, except the spleen; so that no other organ *but* the brain can possibly perform the mental function, which is specifically adapted to its execution. This negative proof is quite a positive one.

THE GREATER CONSUMPTION OF BLOOD, relatively, by it than by any other organs, demonstrates the superlative value and power of its function. SEVERAL HUNDRED PER CENT. more of blood, in proportion to its size, is consumed by the brain, than by any other equally large portion of the system; and about one seventh of all the blood is consumed by it. Of course this proportion differs greatly in different persons, in proportion to their respective talents.

INTENSE MENTAL ACTION, such as laughter, anger, &c., causes a swollen fulness of the veins of the forehead, showing that redoubled mental action redoubles the cerebral circulation.

CONGESTION, or rush of blood to the head, is usually consequent on intense passional and mental action, of one kind or another.

SUDDEN GRAYNESS of the hair is often consequent on extremely painful mental emotions. A son of one of the Seatons, former proprietors of the National Intelligencer, a young man about twenty, whose hair was dark at sundown, as it had always been, suffered intense mental agony during the night, on account of the sudden sickness and death of his mother, and in the morning his hair was turned so gray as to be nearly white, and remained so years afterwards, when the Author saw him, and received this account from his own lips. Many like instances have fallen under his personal observation.

HEADACHE is generally accompanied by a blurred, confused, dull, or else intensely acute state of the mind — cerebral rush of blood causing mental stupidity when it congests the brain, but mental acuteness when it inflames it. Let a few quotations show the opinions of noted men on this subject.

"THE BRAIN includes those nervous organs in and through which the several functions of the *mind* are more immediately connected; the nerves of the senses, and those relating to volition, and common sensation, are connected with it." — *Gray's Anatomy; the highest anatomical authority extant.*

"EVERY ACT of the will, every flight of the imagination, every glow of affection, and every effort of the understanding in this life, is performed by means of the cerebral organ. In other words, *the brain* is the organ of the mind." — *George Combe.*

"WE cannot doubt that the operations of our intellects *always* depend upon certain motions taking place in our brains." — *Dr. Cullen.*

"CERTAIN DISEASES which obstruct memory, imagination, and judgment, prove that a certain state of the brain is necessary to their exercise, and that the brain is the primary organ of the intellectual powers." — *Dr. Joseph Gregory.*

"THAT THE MIND is closely connected with the brain, as the material condition of mental phenomena, is demonstrated by our consciousness, and by the mental disturbances which ensue upon affections of the brain." — *Blumenbach.*

"THE BRAIN is the material instrument of thought: this is proved by a multitude of experiments and facts." — *Magendie.*

"I READILY CONCUR in the proposition that the brain of animals ought to be regarded as the organization by which the percipient principle becomes variously affected: First, because in the senses of sight, hearing, &c., I see distinct organs for the perception of each; Secondly, because the brain is larger and more complicated, in proportion as variety of the affections of the percipient principle is increased; Thirdly, because disease and injuries disturb and annul particular Faculties without impairing others." — *Abernethy.*

"IF the mental process be not the function of the brain, what is its office? In animals which possess only a small part of the human cerebral structure, sensation exists, and in many cases is more acute than in man. What employment shall we find for all that man possesses over and above this portion — for the large and prodigiously developed human hemispheres? Are we to believe that these serve only to round the figure of the organ, or to fill the cranium?

"I refer the varieties of moral feeling, and of capacity for knowledge and reflection to those diversities of cerebral organization which are indicated by, and correspond to, the differences in the shape of the skull." — *Lawrence.*

"WILLIAM PINKNEY, of Maryland, whose extraordinary power in debate

is well known, when unexcited, exhibited nothing in his appearance which manifested unusual activity and energy of mind; but when roused by debate, his face became suffused with blood, and his eyes sparkling and animated; his carotids pulsated violently; his jugular veins became swollen, and everything indicated that his blood was carried to his head with an impetus proportioned to the excitement of the occasion, and his intellectual efforts; and it was only during this cerebral orgasm that his thoughts were poured forth with that fluency and power for which he was so remarkably distinguished. The same phenomena occurred to some extent in his private studies, whenever he fixed his mind intently on any subject for the purpose of deep investigation." — *Dr. Sewall, of Washington, D. C., an opponent of Phrenology.*

PINKNEY was wont, when he was about to make any powerful mental effort, to *tie his neck handkerchief* so very tight around his neck as to retard the passage of blood *from* his head, thus keeping his head *full of blood*.

"ALL THESE DIVERSITIES of vital energy are now well known to be dependent on the organ of the brain as the instrument of the intellectual powers." "Anatomy demonstrates that the primary source of these attributes, the quarter in which they originate, or which chiefly influences them, is the brain itself." — *Dr. Mason Good.*

"MEMORY, imagination, and judgment may all be set to sleep by a few grains of a very common and simple drug." — *Dr. Thos. Brown, the great writer on mental philosophy.*

"FEVER, or a blow on the head, will change the most gifted individual into a maniac, causing the lips of virgin innocence to utter the most revolting obscenity, and those of pure religion to speak the most horrid blasphemy; and most cases of madness and eccentricity can now be traced to a peculiar state of the brain." — *Dr. Niel Arnot.*

"M. RICHERAND had a patient whose brain was exposed in consequence of a disease of the skull. One day, in washing off the purulent matter, he chanced to press with more than usual force; and instantly the patient, who, the moment before, had answered his questions with perfect correctness, stopped short in the middle of a sentence, and became altogether insensible. As the pressure gave her no pain, it was repeated thrice, and always with the same result. She uniformly recovered her Faculties the moment the pressure was taken off. M. Richerand also mentions the case of an individual who was trepanned for a fracture of the skull, and whose Faculties and consciousness became weak in proportion as the pus so accumulated under the dressing as to occasion pressure on his brain.

"AT THE BATTLE OF WATERLOO a man had a small portion of his skull beaten in upon his brain, and became quite unconscious, and almost lifeless; but Mr. Cooper, having raised up the depressed portion of the bone, the patient immediately arose, dressed himself, became perfectly rational, and recovered rapidly. Professor Chapman in his lectures mentions that he saw an individual with his skull perforated and

brain exposed, who used to submit himself to the same experiment of pressure as that performed by Richerand's patient, and who was exhibited by the late Professor Wistar to his class. The man's intellect and moral faculties disappeared when pressure was applied to his brain; they were literally 'held under the thumb,' and could be restored at pleasure to their full activity."

"A CASE STILL MORE remarkable was that reported by Sir Astley Cooper of a person named Jones, who, by being wounded in the head while on board a vessel in the Mediterranean, was deprived of consciousness. In this state of insensibility he remained several months at Gibraltar, whence he was transmitted to Deptford, and subsequently to St. Thomas's Hospital, London. Mr. Cline, the surgeon, found a portion of the skull depressed, trepanned him, and removed the depressed part of the bone. Three hours afterwards he sat up in bed, sensation and volition returned, and in four days he was able to get up and converse. The last circumstance he remembered was the capture of a prize, thirteen months before, in the Mediterranean."

"A YOUNG MAN IN HARTFORD, U. S., was rendered insensible by a fall, and had every appearance of being in a dying condition. Dr. Brigham removed more than a gill of clotted blood from beneath his skull; upon which the man immediately spoke, soon recovered his mind entirely, and is now, six weeks after the accident, in good health as to mind and body." — *Combe's Phrenology*.

"ON examining his head I distinctly saw the pulsation of his brain; it was regular and slow; but at this time he was agitated by some opposition to his wishes, and directly the blood was sent with increased force to his brain, and the pulsation became frequent and violent." — *Sir Astley Cooper*.

"THE PATIENT, a female, had lost a large portion of her scalp, skull, and dura mater, so that a corresponding portion of her skull was subject to inspection. When she was in a dreamless sleep her brain was motionless, and lay within her cranium. When her sleep was imperfect, and she was agitated by dreams, her brain moved, and protruded without her cranium, forming cerebral hernia. In vivid dreams, reported as such by herself, the protrusion was considerable; and when she was perfectly awake, especially if engaged in active thought or sprightly conversation, it was still greater." — *Dr. Pierquin*.

"A ROBUST MAN lost a considerable portion of his skull. When excited by pain, fear, or anger, his brain protruded greatly, and throbbed tumultuously." — *Medico-Chirurgical Review*.

"ALMOST from the first casual inspection of animal bodies, the brain was regarded as an organ of primary dignity, and more particularly in the human subject, the seat of thought and feeling, the centre of all sensation, the messenger of intellect, the presiding organ of the bodily frame.

"All this superiority, all these Faculties which elevate and dignify man, this reasoning power, this moral sense, these capacities for happiness, these high-aspiring hopes, are *felt, and enjoyed, and manifested* by

his superior nervous system. Its injury weakens, its imperfection limits, its destruction, humanly speaking, ends them." — *Edinburgh Review*, No. 94.

IN COMMON PARLANCE, men use the terms "great brains," "long-headed," "clear-headed," "abundance of brains," &c., as tantamount to strong mental capacities, and "addled brained," "weak brained," "wanting in the upper story," "thick headed," "numb-skull," &c., as signifying weakness of mind and character.

THE CONVERGENCE of all these ranges of facts and arguments demonstrates our proposition, that THE BRAIN IS INDEED THE ORGAN OF THE MIND.

36. — THE BRAIN IS THE ORGAN OF THE BODY.

WHAT MEANS this network of nerves, motor, and sensory stretching, from the brain to every organ of the body? Is all *this* marvellous structure for nought? Is not its *office* coextensive with *itself*? Not a muscle, nor even shred of any muscle, not a bone, nor part of any bone, not an organ, nor the most infinitesimal part of any organ, but is permeated throughout by these cerebral nerves. All this pains would not be taken to place them where they are not indispensable. That the necessity for them is *absolute*, is evinced by both the minuteness of their ramification, and the death of any and all organs the instant they die. Sever those nerves which ramify from the brain upon the little finger nail, and it dies. A neighbor carpenter, in falling from a ladder, struck and broke the middle of his spine across a saw buck, thereby severing the nervous connection between his brain and lower limbs, which of course died. But he would not believe they were dead till he made his neighbors heat irons red hot, and apply them to his limbs, so that his still living eyes could *see* these seething irons *sear his own legs*; yet they were actually dead, not because any damage had been done them, but solely because their nervous connection with his brain had been severed. And he saw them gradually *decomposing* before he himself died.

A FARMER, riding on a load of hay, by being upset had his spine broken between his shoulders. He could breathe, see, talk, remember, reason, and had his mind entire; but that part of his body below this breach died immediately, yet as the vital functions are carried on by the great sympathetic nerve which

unites with the brain above the breach, it remained intact, and its organs lived and worked on a short time only.

What do these facts prove but that these limbs, and all limbs, live by means of a living principle derived from the brain?

SEVERING THE NERVE from the stomach to the brain instantly arrests digestion. Sever the nerve of sensation which passes from the brain to any organ or part of the body, and that part ceases to feel the instant of such severance; yet while the nerve of motion remains intact, their motion remains as before; whereas, severing the nerve of motion while that of sensation remains good, destroys all power of voluntary motion, yet leaves the sensation unaffected. Thus sever the nerve of motion which ramifies on the hand, yet leave that of sensation intact, and the patient may see the approach of fire, and feel the inexpressibly acute pain consequent on its burning, yet is absolutely unable to move it one hair's breadth. What does all this prove but that the brain is the organ of every *bodily* function, as well as of every mental?³⁵ Moreover, —

NERVE IS BRAIN. Every nerve starts in the brain, has the same identical structure with it, and analogous coatings and linings, and, of course, a similar function. What keeps heart and lungs in perpetual play? One steady stream of life-force generated in and by the brain, and sent by these nerves to them. What but brain power moves hand and foot, head and body, this way and that? Why this minutest conceivable nervous ramification throughout every shred and fibre of all men and all animals, fish and fowl included? Because every identical shred "lives, moves, and has its being" in a living force derived from the brain. In short, —

THE BRAIN is the one grand paramount instrumentality of mind and of life throughout all their ever-varying functions. Without it there never is, never can be, any function, any life, any anything whatsoever appertaining to man or life. It is the crowning organ, and fulfils the regal function, of all that lives. It is absolute monarch and tyrant over all, lords it imperiously over all, holds all in its iron scepter, and makes all else its abject slaves.

WHAT MEANS it that the brain is thus the organ of the mind and body? This, that ALL THE STATES of the brain similarly affect every function of the entire mind and body, that all our rea-

son and memory, our goodness and badness, virtues and vices, talents and propensities, and whatever we say, do, and are, originate in the brain, depend upon it, and are controlled by it.

37. — THE ANATOMY OF THE BRAIN PROVES THAT IT IS THE ORGAN OF THE MIND AND BODY.

ADAPTATION of all organs to the exercise of their specific functions, is an obvious principle and fact throughout Nature, as well as a philosophical necessity. What one natural production but is precisely fitted in all possible respects to fulfil its own function, but no other? A horse can run, but not fly, because he is adapted to running, but not to flying; yet birds can do both, because adapted to both. This principle is too apparent to need proof, or even illustration, and renders the inference scientific, that in case the brain is *adapted* to execute the mental function, it *does* execute it.

THE ANATOMICAL STRUCTURE of everything specifically adapts it to fulfil its specific office only. Therefore, if the brain performs the mental function, its entire anatomy throughout all its minutiae will be precisely adapted thereto; and if thus adapted, it does thus exercise it. So in case it carries on the bodily functions, it will be structurally fitted to control them; and if thus fitted, it does thus execute. The following description of it, perhaps less learned than some, yet at least intelligible, shows that it is thus adapted to be, and therefore is, the organ of both the mind and body.

THE PHILOSOPHY or *quo modo* of cerebral and nervous action merits special attention. This action is often instantaneous. Words cannot describe the rapidity of sight, thought, feeling, and all our mental operations. When we touch fire the nerves feel the pain, telegraph word to the brain, receive back a mandate to remove the burnt part, and obey; all in an instant. The lightning's flash is no more sudden. Therefore, whatever executes this mental function must act with lightning velocity; for the action of all organs must needs coincide in speed, power, and all other respects, with the function they perform.²⁶ Of course if the brain is the organ of the mind, it must act as quickly as the mind and senses act. No hard, but only

A PULPY SUBSTANCE alone could possibly act with this required lightning speed; but a gelatinous, or half fluid, half solid

substance could. A small, long sack filled with water, when struck at one end, imparts instantaneous action to the other. Speaking through a tube illustrates this principle, by the impulse on the air at the speaking end being transmitted instantly to the other. Now this pulpy structure of the brain and nerves exactly fits them to transmit their motions from each end to the other and back in the twinkling of an eye. They are firmly pressed all around and all along their course; that pressure at least equalling that on the external surface of the body, namely, fifteen pounds to the square inch, and probably greater. This pressure is precisely what their transmissions, on our principle of pulpy or gelatinous action, requires; for —

THE GENTLE PRESSURE of all organs promotes their action, and is probably indispensable to it. Thus a moderately tight bandage around the loins aids muscular motion; squeezing the eyes by contracting the eyelids on them promotes sight; shoes pressing the feet aid walking; the contraction of the scrotum on its organs aids their action; and probably such pressure of organs is indispensable to their action. Then why should not the moderate pressure of the skull upon the brain also promote its undulation and concomitant mental action? At least this theory of nervous action being effected by means of pressure on their gelatinous structure is worth considering.

THE FIRST LOOK, the very aspect of the brain, proves it to be the organ of the mind. "First impressions" generally disclose first truths. In this light, behold the human brain! Look at its commanding position, in the superior and crowning portion of this majestic structure — man! See the matchless skill of the Divine Architect displayed in protecting, from external injury, this exquisitely wrought instrument: first, by the *skull*, so elegantly and wonderfully shaped, and so judiciously divided into its various frontal, lateral, and occipital portions; and all these so ingeniously and so strongly joined together by their respective *sutures*! And in order still farther to strengthen this bulwark of the intellect, we find the skull again divided into its external and internal tables; and these tables supported and united by an intervening, spongy substance called *diploë*, which renders it less liable to be cracked or broken. This ossific ball is also strength-

ened by the scalp or skin; and this, again, is both protected and adorned by a thick coat of flowing hair.

AN INTERIOR view of this "dome of thought," this "palace of the soul," a survey of its beautiful chambers, superbly lined with the *dura mater*; when we look at the *pia mater*, which envelops the brain, and at the ingenious contrivance of that secreting membrane, the *tunica arachnoidea*, placed between the dura and the pia mater to lubricate and soften both; when we examine the partition walls of these chambers, formed by the *falciform process* of the dura mater, and the connecting fibres of the two hemispheres of the brain, styled the *corpus callosum*; when we scrutinize the cineritious substance of which the brain itself is composed, and notice the beautiful convolutions in which



NO. 3. — THE BRAIN AND NERVOUS SYSTEM.

it is deposited; when we observe that this organ is the grand centre of all the most delicate and intricate machinery of the human frame, the finale of the spinal marrow, and of the whole nervous system, and, moreover, the recipient of one fifth of the vital flood propelled by the heart; when we look at all this, the conviction is forced home upon us, that the Great Architect would not make such a display of wisdom and skill in the formation, location, and protection of the brain, unless he had some *important* end in view — unless it performs the *mental* functions.

THE BRAIN IS SITUATED in the head, and surrounded by the skull, which it fills exactly, crowding itself into its every nook and corner.

ENGRAVING No. 3 represents both the brain and its nervous ramifications throughout the system.

THE SKIN receives the capillary network of these nerves.¹⁵⁰ The body must be protected against all injurious conditions, ex-

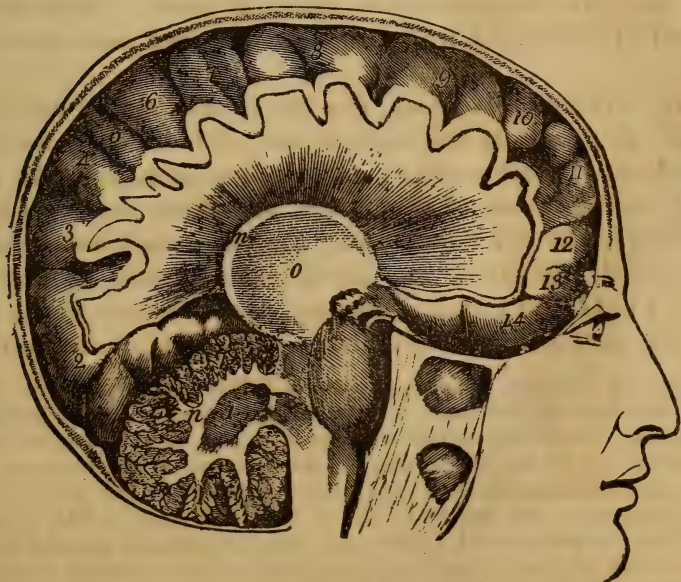
tremes of heat and cold, bruises, wounds, fire, and whatever injures the organism. These nerves thus protect it, by spreading out upon the skin into the minutest possible ramifications, as seen by the accompanying engraving, No. 4, of one of these nervous terminations. Who, after realizing this nervous connection of the brain with the skin, will say the former has nothing to do with the body! This illustrates their ramifications upon every other organ and part of the body.



NO. 4.—PAPILLA OF THE SKIN. AFTER GERBER.

THE SKULL, or outer rim, in engraving No. 5, is a hard, bony encasement, which obviously has the *protection* of this semi-fluid brain for its specific object. It is nearly spherical, so that

NO. 5.—A PERPENDICULAR SECTION THROUGH THE MIDDLE OF THE BRAIN AND SKULL, FROM FRONT TO OCCIPUT.



1, Cerebellum.
m, Corpus callosum.
o, The great commissure.

2 to 14, Convolutions of the brain.
n, Arbor vitae.

it holds more brain for its size than it could if in any other shape. This form also wards off blows and all injuries much more effectually than would be possible by any other. If it were flat, how easily would it be penetrated! If it had corners, how often would they be struck!

TWO SMOOTH, HARD PLATES, one forming its outside, the other on its inside, are connected together by little bony cross-bars between them, called *diploe*, thus making it stronger, yet lighter, than if it were solid. See those honeycombed interstices between its outer and inner surfaces, both of which are smooth, the inner especially so, thus allowing the brain to undulate or slide back and forth upon it.

EIGHT BONES, joined together by saw-teeth-like edges, which shoot past each other, and, turning back, interlock them together, making them quite as firm at these sutures as anywhere else, so bind these bones together that they form a hollow dome, and almost a sphere, except that it is flattened on its bottom. These bones are called ethmoid and sphenoid, which form its base, os frontis, forming the forehead, two parietal or wall bones, which form its sides and top, an occipital bone, which encloses it in the rear, and two temporal bones above the ears. These sutures, instead of facilitating fractures, actually retard, and often arrest them.

THE CEREBRUM, OR BRAIN, fills the frontal, upper, and nearly all the other parts of the head, in fact, all but a small section in its back and lower portion; and consists of a jelly-like mass, about the consistence of thin dough, and chiefly composed of two substances, the outer gelatinous, grayish, called cineritious, or ash-colored, and folded into convolutions, as seen in engraving No. 5, 1 to 14, and a white, medullary mass of nervous fibres, which originate in this cineritious portion, and converge to its centre.

"THE CINERITIOUS, neurine, or cortical substance which forms the exterior envelope of the brain, is now justly classed with the ganglionic structures. Each convolution consists of a fold of this neurine enclosing medullary fibres penetrating to the bottom of the sulci, so as to form one unbroken though undulating sheet over the whole convoluted surface of the brain; varies in thickness from a line to nearly two lines; is ash-colored, tinged with red, but pale in anemic persons, yet in those who have died in robust health, and especially in cerebral congestion, this red tint is much heightened, forming a strong contrast with the subjacent medullary mass. It is arranged in three layers,

which alternate with three others of fibrous neurine. The distinction between some of these laminæ may be seen in the healthy state of the posterior convolutions; but it is most obvious in those instances in which the parts have become enlarged by hypertrophy, consequent on long-continued inflammation, though a microscope is necessary to discover them all.

"This structure is everywhere penetrated by the medullary neurine; its fibres being disposed more or less at right angles with that portion of the cineritious mass with which they are in relation; while, on the other hand, these fibres converge inwards to the central part of the brain; namely, the optic thalami, and the corpore striata. A large proportion, therefore, of the medullary neurine of the hemispheres, the *centrum ovale*, for example, consists of fibres which establish a communication between the hemispherical ganglion and the central gangliform bodies just named." — *Morton's Anatomy, the best American extant.*

THESE CONVOLUTIONS undoubtedly execute the various mental mandates which these nerves transmit throughout the body, and all the states of the body are reported back through these nerves to this instrument of the mind. Please note, in engraving No. 4, that the nerves from the brain, after branching out into inconceivably minute subdivisions at the skin, DOUBLE BACK on themselves. That is, after reaching the skin, and thus carrying the mental mandates from these convolutions to the skin, they turn and go right back again, from the skin to the brain. Now this circuit, this turning back on themselves, *means* something important, — means that these nerves *bring and carry* communications from the brain to the skin, and from the skin to the brain. Of course a like structure appertains to all the nervous surfaces of the body.

WHAT EVIDENCE could be any stronger that neither can live without the other! And the fact that burning, and all other injuries of the skin, cause pain so inexpressibly agonizing, and that those who lose any great portion of their skins by scalding *must die*, but shows how intimately skin, brain, and mind are interrelated, and that skin action promotes mentality.

IN THESE CEREBRAL CONVOLUTIONS, engraving 5, 1 to 14, all the mental operations are carried forward. They are conceded to be the deeper, the more talented their possessor.

LIKE THE FOLDING of the intestines and other parts, seen in engraving 103, they obviously allow a greater amount of mental function to be carried on the larger and deeper they are; thus redoubling the efficiency of the brain, and powers of the mind, without

much enlargement of its *absolute* size. Fish have no cerebral convolutions, birds but the slightest undulations in it, and so of mice, rats, rabbits, &c.; but they are apparent in sheep, cattle, &c.; and much less distinct in cats, lions, tigers, and felines generally than in dogs, and the canines; yet are still larger in apes, and much more distinct in Eastern apes than in American, and the former are far the smartest. Soemmering says they are scarcely perceptible before the sixth month of ante-natal life, but keep on deepening till after puberty, yet diminish in old age; and Desmoulins and Magendie, that in their numerous examinations of the brains of almost every genus of mammalia, they found a nearly constant relation between the extent of surface presented by the brain in each genus, and the amount of intelligence displayed by it; as well as in different individuals of the same species. These convolutions are also shallow in most idiots. They are by far the largest in man, and largest of all in men of commanding natural talents.

"CALLED, some years ago, to make a post-mortem examination of the brain of one of the most distinguished public men of Delaware, I was perfectly astonished at the size and depth of its convolutions; I never saw anything like it in all my life." — *Dr. George McClellan, the best American surgeon of his time, and father of General George B. McClellan.*

IN CUVIER'S brain, they exceeded in size and depth anything its post-mortem examiners had ever before witnessed, and especially in their superior and frontal portions.

"NONE of the gentlemen present at the dissection remembered to have seen so complicated a brain, convolutions so numerous and compact, or such deep anfractuositities." — *M. Bérard.*

"IN MAN, above all other animals, are the convolutions numerous, and the furrows deep, and consequently the cineritious mass great, and its extension of surface far beyond that of all other creatures." — *Bell.*

THE PIA MATER and arachnoid membrane dip down into these folds, and are full of blood-vessels; thus carrying an immense amount of blood to these convolutions. The great Haller says *one fifth* of all the blood which issues from the heart is carried to the head, while Monro rates it at one tenth; the difference in their estimates being doubtless consequent on the fact that the patients observed by the former had the most brain power.

NERVES run from underneath all parts of this cineritious (ash-colored) or mind-exercising neurine inwardly towards one common centre, called the corpus callosum, as seen in engraving No. 5, which represents a section down through its middle, from forehead to occiput. It is here divided into two lobes, right and left, by the falciform or scythe-shaped dip of the coverings of the brain, so that these convolutions extend down, one each side of this cleft, for some two inches along its entire length.

THE CORPUS CALLOSUM, *m*, in engraving No. 5, is composed mostly of nerves which run from its right side to its left, thus connecting the two hemispheres of the brain; and from front to occiput, thus uniting its frontal portion to its posterior.

"THE CORPUS CALLOSUM is a broad band of medullary fibres which forms the floor of the longitudinal fissure, and is the *great transverse commissure* by means of which the two hemispheres are joined together. It is situated in the middle of the centrum ovale, but nearer to the anterior than posterior margin of the brain. It is slightly arched, three inches long, nearly an inch in breadth, and about two lines in thickness, except at its ends, where its depth is somewhat greater. The fibres of which it is composed run transversely into the hemispheres on either side, where they are everywhere in contact with the neurine, or internal layer of the hemispherical ganglia; so that these fibres consequently establish a communication between the cineritious neurine of the whole convoluted surface of both sides of the cerebrum.

"THIS COMMUNICATION, however, does not result from the mere crossing of fibres from side to side; for the latter can be distinctly traced into the anterior and middle lobes of the brain, and part of the posterior lobes. Thus the medullary fibres from the front, sides, and superior part of the anterior lobe pass backwards and inwards in order to reach the front margin of the longitudinal fissure, where they assist to form the corpus callosum. These fibres form the convolutions of the upper and lateral portions of the middle lobes, run downwards and inwards, being joined by those from the convolutions at the base of the brain. The fibres from the upper, under, and posterior surfaces of the posterior lobe take a direction inwards and forwards, and form the corresponding portion of the commissure." — *Morton's Anatomy*.

ONE GRAND CENTRAL POINT is thus formed, to which all these exterior mind-exercising convolutions converge; thereby bringing all parts of the brain and mind into one great focal centre. Now this is precisely what the mind requires. Though it is composed of independent Faculties, yet they must be so *embodied* as to work *together*³⁴ like a band of brothers. Single mental Faculties could no more achieve any mental result than single bodily organs

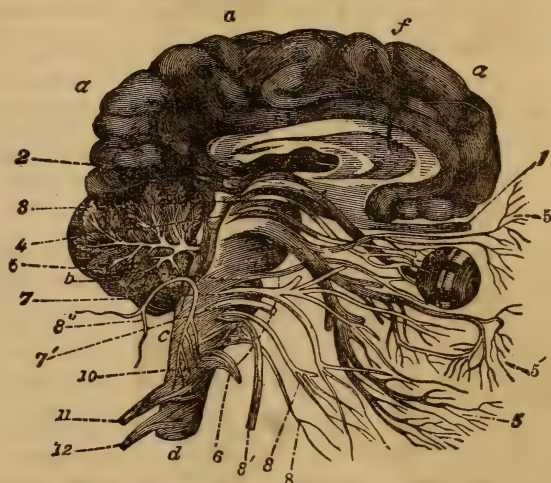
could bodily results. Thus of what use would be the separate action of the heart unless it worked *in concert* with the stomach, liver, muscles, nerves, &c.? Everything we do is done by many Faculties and organs working *together*. All the smallest operations of life are consequent on the *combined* action of a great proportion of our mental powers, and many mental operations require about all of them.³⁴ There must of necessity then be some means, some facility by which any desired member of them can work with any other member required. They then need some common *rendezvous*, through which will may summon to concerted activity whichever of them it may just then require. Behold how perfectly this *corpus callosum* facilitates this concert of action in this anatomical fact that all the medullary nerves from the upper convolutions run downwards, from each side pass inwards, from the front backwards, and back forwards, as well as from below upwards, to this great centre! To *unitize and embody* the action of all those nerves which centre in it, is its obvious office. The mental Faculties *must have* just such a centre.³⁴ That this supplies it is apparent. Mark the convergence of these propositions. The mind is composed of primal Faculties,³³ which act in concert.³⁴ The brain is the organ of the mind³⁵ and body.³⁶ All the functions of both often require to work together. Here is a cerebral arrangement for the conjoint action of them all. Therefore the brain is structurally *fitted* to, and of course *does* carry forward both the mental and physical functions. What facts and what reasonings prove any truth any more conclusively!

THE BASILAR structure of the brain furnishes absolute proof that it carries forward the bodily functions. These functions die when their nerves, going to the brain, are severed.³⁶ But their nerves connect solely with the *base* of the brain. The structure of this base shows that the bodily organs derive their *vis animæ* from it. So does the fact that persons live on after most of the upper portion of their brain is suppurated; thus proving that its upper part carries forward the mental functions, and its lower the physical, which their geographical position goes to confirm.

ALL THE NERVES of the senses and of physical life originate in this *base* of the brain. Its structure is most curious and instructive. If the structure of any one part of the entire man is any

more complicated than any other, this base of the brain is that part. It is protected as is no other, and the most difficult to reach and injure. The nerves which arise in it exceed those which arise in all the other parts of the body; indeed, this is almost the only origin of the nerves. That great opening in the base of the skull, seen in engraving No. 90, is not for nought. These nerves require and create this great foramen, because they are so large. The nerves from all parts of the body report to this base as their natural "head-quarters," from

No. 6. — THE NERVES OF THE BRAIN.



No. 205. — AMATIVENESS AND THE NERVES OF THE BRAIN.

Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, indicate the origin and direction of the first, second, third, fourth, fifth, sixth, seventh, eighth, ninth, tenth, eleventh, and twelfth pairs of nerves.

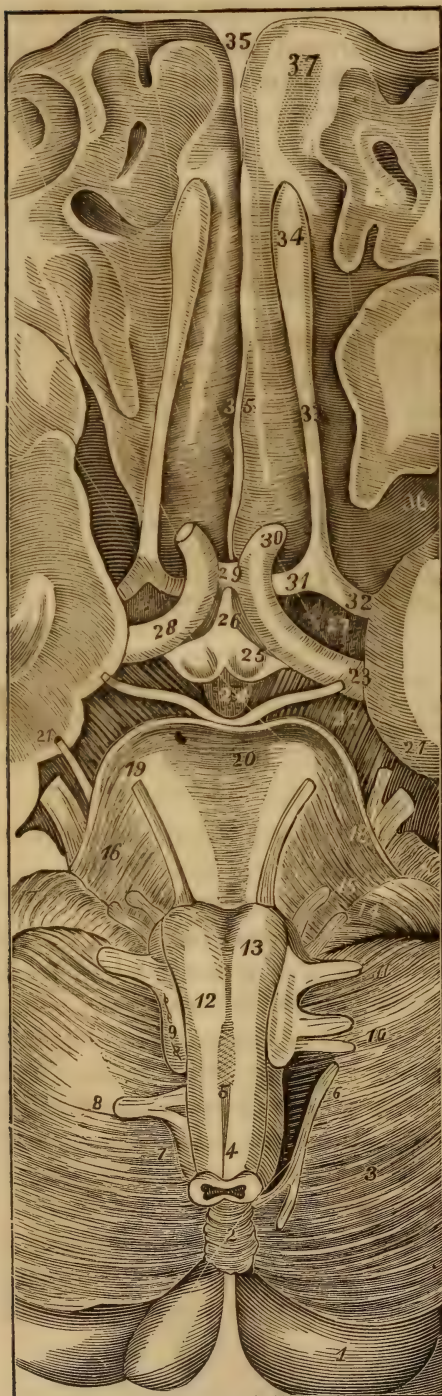
a a a, Convolutions.
c, d, Spinal cord.

b, Arbor vital.
f, Great commissure.

which to receive their orders, and to which to report information. Let the preceding most instructive engraving, No. 7, after Quain, modified by Dickerson, disclose one of the most curious, elaborate, and wonderfully constructed parts of the human frame.

THE PONS VAROLII connects the various segments of the brain, the cerebrum above, medulla oblongata below, and cerebellum behind, and consists of alternate layers of transverse and longitudinal fibres, intermixed with gray matter. Its location and structure clearly indicate that, while the corpus callosum unitizes the action of all the mental functions, this structure gives concert of action to all the bodily functions. Its position and structure prove that its office is second to none in practical importance.

THE CEREBELLUM, or little brain, occupies a small section of the back and lower part of the skull, is separated from the brain proper by a thin, wide, bony membrane, called the tentorium, is



VIEW OF THE BASE OF THE BRAIN, WITH ITS ASSOCIATED NERVES, OF THE NATURAL SIZE, BY QUAIN, MODIFIED BY WM. M. DICKESON.

1. Small portion of the posterior part of the cerebrum (organ of Parental Love) projecting beyond the cerebellum.
2. Inferior vermiform process of the cerebellum.
3. Lobe of the cerebellum.
4. Termination of the medulla oblongata in the spinal cord.
5. Decussating fibres of the corpora pyramidalia.
6. Spinal accessory nerve.
7. Corpus retiforme.
8. Ninth, or hypoglossal nerve.
9. Corpus alivare.
10. Pneumogastric nerve.
11. Glosso-pharyngeal nerve.
- 12, 13. Corpora pyramidalia (flexed backwards).
14. Auditory nerve.
15. Facial nerve.
- 16, 20. Pons Varolii, with its longitudinal furrow.
17. Flocculus, or lobular appendix of the cerebellum.
18. Tergeminus nerve.
19. Sixth nerve, abducens oculi.
21. Fourth nerve, or trochlearis.
22. Crus cerebri.
23. Motor oculi, or third nerve.
24. Locus perforatus posterior, or pons Tarini.
25. Corpora albicentia.
26. Infundibulum.
27. Locus perforatus anterior.
28. Tracticus opticus.
29. Chiasm of the optic nerve.
30. Optic nerve.
31. Internal roots of the olfactory nerve.
32. External do.
33. Trunk of the olfactory nerve.
34. Its bulk.
35. Longitudinal fissure of the brain, separating the anterior lobes.
36. Fissura Sylvii.
37. Anterior lobe of the brain, through which the middle artery of the brain passes.

the seat of Love, muscular motion, and some other physical functions, and has its commissure in the pons Varolii, which is to it what the corpus callosum is to the cerebrum. To recapitulate :

"THE ENCEPHALON (entire brain) is covered by the hemispherical ganglia of cineritious neurine; and the tubular fibres of the brain are so arranged as to be brought into apposition with the whole of this ganglionic mass, and to radiate through it. These tubular or medullary fibres are disposed of in four different modes:—

1. "A part of them commences in the convolutions of the anterior, middle, and posterior lobes of the brain, pass through the corporata striata, and converging to form the anterior layer of the crus cerebre, perforate the pons Varolii, and reappear as its posterior margin in the corpora pyramidalia, or anterior column of the spinal cord. This is the motor tract.

2. "Another series of medullary fibres commences below in the apparatus of sensation, passes upwards through the pons Varolii, forms the medullary elements of the optic thalamus, and then radiating in the brain, terminates in the same neurine which gives origin to the motor tract. This is the sensory tract.

3. "Other fibres pass from one side of the brain to the other, and in apposition to the internal surface of the convolutions: these fibres constitute the transverse commissures of the brain, which are aided by the smaller commissures.

4. "Other commissural fibres pass from front to back, which connect together the convolutions on the same side of the head, that is, different portions of the same hemispherical ganglion."—*Morton*.

BODY AND MIND must somehow be so united that they can work together. In practical life, their sympathy is perfect. Some organism, communing with both, must needs effect this sympathy. Their anatomy shows that this is effected thus:—

1. THE MENTAL FUNCTION is performed in the thin layer of cineritious neurine, which envelops the outside surface of the entire brain.

2. MOTOR NERVES originate right in the under or inner portion of this neurine, and running downward through the pons Varolii, emerge into the *back* part of the spinal cord, through which they are distributed to every muscle of the body, thus carrying forward all motion, voluntary and involuntary.

3. NERVES OF SENSATION, beginning wherever we experience sensation, run from all sentient organs to the spine, pass along up through its *front* part, run along upwards through the base of the brain, and terminate in this same identical neurine; thereby enabling these sensory and motor nerves to act in simultaneous

concert. Fire touches your skin. Its organic destruction is most rapid, and must be summarily arrested. The burnt nerves instantly feel intense pain at this touch; send their pain-experiencing messenger to the brain, and up to this neurine, which puts forth mind and will. This will seizes these motor nerves right under this neurine, and right where these sensory nerves terminate, and sends instantaneous mandates to jerk this burnt part from this fiery contact. All this entire process is the work of but an instant! We need not labor to show that mind and body are in mutual sympathy. This anatomical structure *proves* such sympathy. And it is as perfect as its Author could render it; and immeasurably more so than we can conceive possible! This shows how all the states of either affect the other similarly.

THAT DOUBLING BACK of the nerves of the skin, distinctly seen in engraving No. 4, probably experiences a like doubling back in the brain, right under this neurine; so that the nervous system, like the circulatory, is a continuous unit. Probably the nerves from the *brain* to the body execute motion, from the body to the brain convey sensation, just as the blood-vessels which carry out the blood, called arteries, continue right on through the capillaries to form veins; this neurine of the brain corresponding with the capillary structure of lungs, blood-vessels, bladder, liver, &c., in which their function is executed; yet this is merely suggestive. But both sets of nerves are done up in one bundle or sheath, and cannot be distinguished apart by dissection, except at their junction with the spinal cord.

THE PHRENOLOGICAL MODE of dissecting the brain is so vast an improvement on the usual method, so much more instructive, and likely to reveal the offices of its various parts, that medical colleges should be really ashamed to adhere to their old, and ignore our new.

THE OLD consists in beginning at its top, and slicing the brain along down to its bottom by horizontal sections; while the phrenological method consists in *beginning* at its bottom, and *following* the course of its nerves out to their termini. Judge which *plan*, as such, is best. Hear the testimony of Professor Hufeland, one of the ablest of all the French anatomists, touching the superiority of Gall's discoveries and dissections:—

"THE WORTHY REIL, who, as a profound anatomist and judicious physiologist, has no need of any praise, rising above all narrow and selfish prejudices, has declared 'that he has found more in Gall's dissections of the brain than he could have believed it possible for any one man to discover in his whole life.'

"LODER, who is certainly second to no living anatomist, thus estimates the discoveries of Gall in a letter to my respected friend, Professor Hufeland:—

"They are of the highest importance, and some of them possess such a degree of excellence, that I cannot conceive how any one having good eyes can overlook them. They alone are sufficient to render Gall's name immortal; and the most important made in anatomy since the discovery of the absorbent system. The unfolding of the convolutions is a capital thing. What progress have we not a right to expect from a road thus opened! I am dissatisfied and ashamed of myself for having, like others, for thirty years cut up some hundreds of brains as we cut up cheese, and for *having failed to perceive the forest* by reason of its great number of trees. But regrets are useless. Let us now listen to the truth, and learn what we do not know. I acknowledge, with Reil, that I have found more in them than I deemed it possible for any man to discover in a lifetime.'"—*Professor Bischoff*.

"I am fully convinced that it is one of the most remarkable phenomena of the nineteenth century, and one of the boldest and most important advances made in the study of Nature."—*Professor Hufeland*.

"Dr. Spurzheim did not slice, but began at the *medulla oblongata*, and gradually *unfolded* the brain, by following its structure. In ten minutes he completely refuted the reviewer's assertions, and finally demonstrated his own."—*Combe*.

THE following account of a dissection of a brain at Albany, February 1, 1840, by Combe, before Dr. March and many other distinguished anatomists and civilians, speaks for itself on this superiority:—

"COMBE FIRST exhibited the decussating fibres at the root of the pyramidal bodies, beautifully interlacing each other, remarking that this shows why accidents on one side of the brain cause paralysis on the *opposite* side of the body. He next showed the fibres connecting the two *lateral* portions of the cerebellum. Removing these, he demonstrated the fibres which proceed forward to the anterior portions of the brain, or intellectual organs. Every medical man present confessed that *he saw* these fibres passing through the *pons Varolii*, thus connecting the intellectual organs with the nerves of voluntary motion, showing how these nerves are controlled by the will. He also showed Solly's commissure, lying above the *corpus callosum*, connecting the posterior with the anterior portions of the brain.

"He then unfolded the converging fibres until he came even to the surface of the convolutions of the brain, showing, among other things,

that hydrocephalus simply *unfolds*, but does not destroy these convolutions. He exhibited the fibrous structure more clearly than any plates or wax models could possibly do." — *American Phrenological Journal*, Vol. II. p. 347.

38. — SYMPATHY BETWEEN BODY, BRAIN, AND MIND, AND VALUE OF CEREBRAL ENERGY.

BRAIN VIGOR thus becomes the very first pre-requisite of all human efficiency and enjoyment. The brain is the organ of the mind.³⁵ Hence all cerebral and mental states are in rapport with each other. Neither mind nor brain can act except in concert with each other. This mutuality is what renders the brain the organ of the mind. This same brain is likewise the organ of the body.³⁶⁻³⁷ To question the latter is to dispute an anatomical fact, and to deny the former is equivalent to denying that the mind has any connection with the body, or with matter. Therefore all the bodily and all the mental states similarly affect each other, and the strength, weakness, and all other conditions of either necessarily must, and actually do, similarly affect the other also. Ranges of facts, and the constant experience of every member of the human family, perpetually prove and illustrate this point.

ALL OPIATES, ALL ALCOHOLICS affect the mind and body equally and similarly; first by exhilarating, then stupefying both; and each through the other.

COLD AND WARM MORNINGS produce directly opposite effects on the mind by differently affecting the body. Fevers enhance, and often derange the action of the mind by augmenting that of the brain; while hunger, fatigue, debility, and the like, enfeeble the former by diminishing the action of the latter. Dyspepsia induces gloom and mental debility,¹¹⁶ by deranging the physical functions — rendering its victims irritable, misanthropic, wretched, disagreeable, and utterly unlike themselves.²⁸ Physical inaction induces mental sluggishness; while bodily exercise quickens intellectual action and promotes happy feelings. Excess and deficiency of food and sleep affect the mind powerfully, yet very differently. Experience has taught many of our best speakers to prepare their minds for powerful effort by *physical* regimen. Certain kinds of food stimulate some of the propensities, while other kinds augment our ability to think and study.⁹² Fasting

promotes piety, but "fulness of bread" augments sinful desires. Bodily sickness enfeebles the mind, but health strengthens it; while inflammation of the brain causes insanity, and its inaction, as in fainting, mental stupor.³⁵ Both morality and talent are affected by food, drinks, physical habits, sickness, health, &c. When the devout Christian or profound thinker has eaten to excess, or induced severe colds or fevers, or in any other way clogged or disordered his physical functions, the former can no more be "clothed with the spirit," or "soar upon the wings of devotion," nor the latter bring his intellectual energies into full and efficient action, than arrest the sun. Indeed, most of our constantly recurring transitions of thought and feeling are caused by physiological changes. "A sound mind in a healthy body" expresses this great truth, which the practical *experience* of all mankind confirms.

THE ANCIENTS understood this principle, and applied it to education. This is proved by their christening their schools of learning "Gymnasias," in accordance with this fundamental principle, that promoting bodily strength promotes mental vigor. In short, we may as well dispute our own senses, as controvert this doctrine, that both mind and body powerfully and reciprocally affect each other. Every throb of either produces a corresponding pulsation in both the others. No part of the body can be affected in any way without similarly affecting the mind likewise.

UNIVERSALITY governs this reciprocity. Nature never does things by halves. Governing a part of the functions of vision by the laws of optics, compels her to govern *all* the former by the latter, and thus of every conceivable application of this principle. That same utility which renders it best to throw law over a part of any class of her operations,¹⁹ renders it equally useful to extend that same law over this entire class. How unjust if a part were thus governed, and a part left wholly at random! Does Nature ever adopt this piecemeal plan? Is Causality a nullity? Is God irregular? Some physical and mental states certainly do mutually affect each other. This sympathy is effected by these two palpable facts, that the brain is the organ of the mind, and also inter-related to the body. Therefore all is cause and effect. We know, for we feel, that *some* bodily states affect

the mental; therefore *all* do; and hence to excite, or invigorate, or debilitate, or disease, or derange, or restore either, similarly affects the other. Both are as effectually interwoven as are warp and woof, and this interweaving constitutes the warp and woof of life.

THE VALUE OF A GOOD MOBILE BRAIN thus becomes commensurate with life itself.¹⁵ All other problems sink into molehill insignificance, while this towers above all like great mountains piled on still greater. Awake! philosopher and fool, Christian and infidel, king and peasant, each and all, to its consideration.

LIFE AND BRAIN ACTION are inter-related as *cause and effect*; ³⁵ and the value of either ¹⁵ admeasures that of the other. Good minds and brains go together; ³⁵⁻³⁷ as do also poor. Injuring either, injures also the other; while improving either, thereby likewise improves the other. Immeasurably the most valuable commodity on the face of this earth is abundance of good brain; while none are as poor under the sun as those poorly off in their upper story. None grow poor as fast as those who impair its efficiency, whilst enhancing its vigor augments the value of every other life possession and capacity. A man, however rich in dollars, with a poor or paralyzed brain, is pitifully poor, because he can enjoy nothing of all his unbounded wealth; while those are enviably rich who have efficient brains, however poor in dollars, because good brains both *get* dollars, and then make a good use of them. A poor brain makes a poor use of them; and making a poor use of them will soon make any brain poor.³⁷

LIFE! how infinitely precious!¹⁴ Existence! how great and glorious a boon!¹⁵ By all *its* value is that of A VIGOROUS, A NORMAL, AND AN EFFICIENT BRAIN.

WHAT ARE THE LAWS and conditions of brain action, thus becomes the great *practical* question of terrestrial existence. What a pity, what a wonder, that it has not before been distinctly presented for human consideration! And the more important that it be duly investigated *now*, for it involves all the conditions of life, together with all the functions and powers even of existence itself! Ignorance on this point is disastrous, above all other kinds of ignorance; and mistakes here are fatal to all the issues of life!

A HUNDRED FOLD more brain power is possible to every human

being, than each actually now puts forth; and to many, a thousand. See how much more is often manifested by children than they are able to evince when grown up; and yet the order of Nature is that it should redouble all through life, at least till long after the body begins to wane; and undoubtedly Nature has provided for a continuance of brain vigor up to well nigh the close of the longest life!

BE OLD WHILE YOUNG, you who would *remain young when you become old*. If young folks would only be content to sow few if any wild oats, their life zest, their powers to accomplish and enjoy, would increase up to seventy and eighty. These oats are a poor crop at best; for they yield only frenzy — and a wild, harum-scarum, frenzied excitement gives but little pleasure — yet they *poison and impoverish the soil of life ever after!* All its future crops are in the *inverse* ratio of this crop: the greater this, the less all succeeding ones. Young folks, you cannot afford to sow them. They do not *pay*. They paralyze your brain with a fiery frenzy for the moment, only to benumb it ever after! To illustrate:

A FIT OF SICKNESS left your constitution a wreck. Before, you could do two days' work in one day; since, you cannot do one day's work in two or more days. Before, you worked with perfect ease; since, you work only in pain. Before, you loved, since, you dread, labor. Before, you took right hold with snap and zest; since, you drag along, and have to be whipped up by some powerful motive. You lived and enjoyed more in one day than you do in a week or even month now. Your doctor gave you, or you did, something which paralyzed all your after-life functions one fourth, one half, three fourths, or nine tenths — think how much!

THAT LIFT, while yet young, in which you "felt something give way," that terrible day's work or struggle, that fierce temporary excitement, took a large proportion of the snap out of your muscles ever after. O, how unfortunate!

A STUDENT, ambitious to be first, or make up for lost time, you *put right in*, night and day, till, the first you knew, you found your memory impaired, your mental operations blurred and hazy, your feelings obtuse, your reasoning powers benumbed, and thoughts few and poor. Your mental acumen has departed, be-

cause your brain and nerves have been three fourths to nine tenths paralyzed!

A CHILD, CHASTISED, you felt, none knows how agonizingly. But you and your chastiser soon forgot it. Yet your brain got a life-long *shock*, from which it can never recover! Perhaps Mrs. Winslow's Soothing Syrup, or some other opiate, while yet in your cradle, did this terrible business. You do not know what, do not even realize its fearful extent, perhaps, nor even its *fact*; yet your *brain*, and entire after life, still stagger on under that almost fatal blow!

THE EIGHTEEN YEAR OLD FEVER usually sears the brain and nerves terribly. That intense love affair which harassed your susceptible heart by day, and tortured you by night, *broke down your sentient power*. *You have had the dumb ague ever since*. Before, you cared for everything; since, you literally care for nothing. Your whole brain and nervous system, then overstrained, kept strung up by this terrible excitement, finally sunk back benumbed, not merely as to matters of love, but also hate, fear, *all kinds* of pleasure and pain, and left your life automatic, a mere machine, with barely enough motive power remaining to *keep from stopping*. Though not quite dead, you are by no means half alive to anything.

WHEN LOVE RUNS SMOOTHLY, nothing equally soothes, tones up, invigorates, and improves ever after; but when, as far as, and because, it runs cross-grained, or is accompanied by hard or bad feelings, it benumbs the sentient element ever after; as does all dissatisfaction in wedlock; while all conjugal affection proportionably redoubles it.²⁸

ALL VIOLENT PASSIONS blunt it, just as looking at the sun blunts the eyes, and for the same reason—to thereby parry future injury. This is what renders “wild oats” so injurious.

AMATORY EXCITEMENT is especially paralytic; for reason given in Sexual Science.⁵⁷⁸⁻⁵⁷⁹ It, probably, ten times more than all other causes combined, benumbs forever after this sentient element itself. Instances by hundreds have come under the Author's professional notice, in which a few moments of passional ecstasy have stricken down the sensory nerves; both killing itself forever after, and along with it their power to enjoy all the *other* pleasures of life. He honestly believes that a proper exercise of this ele-

ment in *purity* instead of passion, and quietly instead of violently, would alone render mankind more than *tenfold* more sentient and happy in this identical form of pleasure, as well as in all its other forms, than they now are. Few thus blunted know even that they are so; much less how awfully; that is, how immeasurably the happier in this and in all other respects they would have been, but for this earlier searing; or how they became thus blunted. It is most fearful, yet unnoticed.

ONE FALSE STEP, perhaps a drunken debauch, did it. That poison virus you caught penetrated to the remotest ends of your system, and palsied your fountain of life; leaving your nerves a wreck and brain rheumatic ever after. Since, you have merely staid, not lived; have had barely life force enough left *not to die*. How fearfully productive *that* one wild oat was of agony!

THE DEATH of a darling child, or of one you tenderly loved, or else some sudden disappointment, — you know what, if you will only think back, — perhaps did it, but O, how changed you are ever since! Yet only for the worse. The fierce intensity of your brain-action forestalled its *power* of future action, except tamely.

BUT FOR SOME, or perhaps many, such *telling* blows, O, what would you now have been, as compared with what you actually are!

CAUSES INNUMERABLE have thus impaired brain efficiency, one cause this man's, another that's; but to repeat, only the merest fraction of the brain power possible and inherent in us all, is ever practically realized. This deterioration is most lamentable. Reader, on looking back over your life, can you not note down a hundred things, each of which, you are sure, injured your *own* brain's working efficiency — its mobility, so to speak. As our joints often become stiffened by rheumatism, &c., so our brains become stiffened, indurated, hardened, more or less, by this cause or that, and ever after thus much disabled, and our life functions and capacities, our very power to enjoy, think, remember, and feel, proportionally curtailed FOR LIFE.

THE GREAT ART of living, therefore, consists in *keeping* our *brain* in good working order. As, to do good work, we must first have good tools, so to do tall speaking, writing, thinking, enjoying, trading, anything, we must keep that cerebral *tool* which executes every function of life in good working order.

TO SAY HOW this can be effected here would manifestly be out of place. This interlacing between all parts of the brain and body proves, as clearly as anything can possibly be proved, that brain action depends mostly on bodily conditions. Whenever either body or brain suffers, the other also suffers with it, and what improves either thereby improves the other also. The ancients were right in their cardinal motto, "A sound mind in a strong body." Is it not amazing that a practical truth thus apparent, and enforced emphatically every moment of our lives, should have been overlooked by moralists and pietarians, though it forms the primal condition of piety, morality, and goodness; by educators, collegiate included, though it constitutes the base of all education; by lawyers and business men, notwithstanding that it is their one grand instrumentality of all mental efficiency and power whatsoever; and *even* by *doctors*, whose researches *should* have taught it; the more so since it is *the great remedy* of the healing art.²

BODILY HEALTH, immeasurably important in itself, thus becomes almost infinitely more so as a means of enhancing the *mentality* and morality. Sick persons cannot think, cannot feel, cannot love, cannot remember, cannot study, cannot worship, cannot do anything, in proportion as they are sick. *Keeping* well is the first art of *living* well, and *getting* well the next. *Health is paramount*, because the means of all else.⁶⁰ This relationship of body and mind only shows how infinitely important is the subject matter of Part II., and our health prescriptions; and that only a Phrenologist can really present these health doctrines from the best and only true standpoints — *the effects of bodily states on the mental Faculties*.² Let all study this greatest of all the arts of life, the art of taking the very *best possible* care of our bodies in general, and of brain and nerves in particular, and those of our children. Parents, please duly consider the infinitely greater importance of the *formation* of good brains in your children, than of educating them. First *get* good brains, before you try to train them.

39.—THE BRAIN IS COMPOSED OF AS MANY DISTINCT ORGANS AS THE MIND IS OF FACULTIES.

THIS PROPOSITION is self-evident. It is axiomatic; it proves itself; and is but one case out of the myriads of that great

natural law by which every function is performed by its own specific organs. We have already demonstrated this law.²⁵ All Nature demonstrates it. Find it in practical operation anywhere and everywhere you look. And it has no exceptions, no variations. No principle in Nature, not even gravity, is any more fully established than is this, that Nature operates only by organs,²⁵ and that each individual function is invariably executed by means of its own individual organ, and no other. Organs never "swap works." Eyes see, and do nothing else; and all seeing ceases when they become unable to act.

THAT CEREBELLUM and cerebrum perform functions altogether different from each other is evinced in the mere fact of their anatomical separation. If both help each other fulfil the same function, why separate them? Nature never does anything for nothing. This dividing tentorium is not for nought, nor in the way; but executes some *necessary* purpose, which is obviously to enable one part to execute one function, and the other another. Yet admitting *any* division of the brain into separately acting parts, concedes the whole argument. *Any* division presupposes *many* divisions.

THIS PRINCIPLE of an organ for every class of functions must needs appertain to the brain in general, and to each of its parts. The brain as a totality could no more execute the mental function as one great whole than could the body as a unit circulate the blood, digest, see, hear, feel, move, &c. But as one *part* of the body breathes, another part sees, a third digests, a fourth executes motion, &c.; so, in the very fitness of things, one part of the brain must, of *necessity*, execute one class of the mental operations, and another portion another class. The whole world is challenged to invalidate this keystone of our phrenological arch. Let its invaders *take* this fort, instead of ignoring it. Yet all Nature stands arrayed against them, and for us. We defy them. This is *the* question: Does the brain, like the body, perform one class of its functions by *one* of its parts, and another class by another part? or does this universal principle of Nature, that each function is executed by its own specific organ, and no other, govern the body, but *not* the brain? Who will disgrace themselves by maintaining the latter? Yet all do, who deny this doctrine.

ALL ANATOMISTS admit that different parts of the brain manifest

different functions — that its frontal portion manifests the intellectual powers, its middle lobe executes the moral emotions, while the lower posterior lobe exercises the propensities.

“TIEDEMANN, Wisberg, Soemmerring, and an immense number of physiologists and philosophers, have admitted a plurality of organs, and maintained that different parts of the brain are destined to dissimilar functions.

“THIS idea of a plurality of the mental organs as well as Faculties is very old. Those who call it an invention of Gall, err.” — *Spurzheim*.

“ALL the sensations take a distinct form in the cerebral lobes.” — *Cuvier*.

“THE GREAT HALLER experienced a necessity for assigning a function to each department of the brain.” — *Foderé*.

“CAN ALL THESE FACTS of partial insanity be reconciled with the opinion of a single Faculty and a single organ of the understanding?” — *Pinel*.

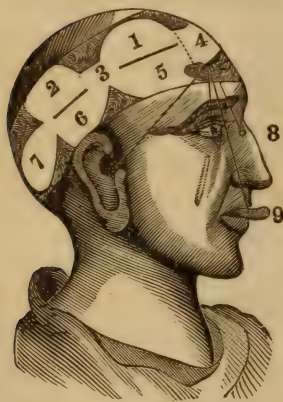
ARISTOTLE taught this doctrine, and it has been generally admitted ever since. Albert the Great, Bishop of Ratisbon, in the

thirteenth century, published a map of the head which assigned special mental functions to particular parts of the brain, which Gall and Spurzheim copied in 1822. Ludovico Dolce, in a work upon strengthening and preserving the memory, gives the following as cerebral seats of several mental powers : —

THESE LOCATIONS, except memory, correspond very nearly with the phrenological. Thus “common sense” is located where Phrenology locates the reasoning organs, which give this quality of mind; Phantasm and Imagination are located where it locates Beauty, the corresponding function; whilst Cogitation is placed where we locate Caution or forethought, the corresponding function.

“IN THE BRITISH MUSEUM is a chart of the universe and the elements of all sciences, in which a large head so delineated is conspicuous. It was published at Rome so lately as 1632.” — *Geo. Combe*.

NO. 8. — ANCIENT CEREBRAL DIVISIONS.



1. Fantasia.
2. Cogitativa.
3. Vermis.
4. Sensus Communis.
5. Imagina.
6. Æstimativa; or,
Judgment.
7. Memorativa.
8. Olfactus.
9. Gustus.

"THE BRAIN is a very complicated organ, or, rather, an *assemblage* of very different organs." — *Bonnet*.

"CERTAIN PARTS of the brain in all classes of animals are larger or smaller, according to certain qualities of the animals." — *Cuvier*.

"IT IS A TRUTH generally recognized that the cerebral functions of animals become more numerous and diversified according as their brain and nervous systems possess a more complicated structure." — *Tiedemann*.

THIS GENERAL division of the brain demonstrates its subdivision into just as *many* parts, or organs, as it fulfils distinct *classes* of functions. Nature does not work thus by piecemeal. Whenever she adopts any mode of operation in general, she extends it down to the minutest details. Her admitted adoption of this *principle* of executing different classes of the mental operations by diverse portions of the brain, is *ipso facto* proof that *every* class is exercised by its own *specific* part of it.

CHANGING SUBJECTS rests both the brain and mind, just as change of exercise rests the body, and for the same reason, namely, that it brings the different PARTS of both into *successive* action. Thus, as walking rests a shoemaker after working all day at his bench, because it brings a different set of muscles into action, so changing one's studies, thoughts, and feelings rests both brain and mind, because this change calls a new set of cerebral organs into action not previously fatigued. Now if both classes of functions were exercised by the *same* organs, this change would re-fatigue equally with continuing the old work. This argument is short, but valid.

THE DIFFERENT GIFTS and dispositions of different persons, and of the same person, presuppose different mental Faculties and cerebral organs. The acknowledged differences between males and females must needs be consequent on one set of Faculties, with its organs, being stronger in males, and another set in females. How else could it be caused?

ONE PROPENSITY or talent is much stronger in one person than in another, and even than in the same person. One commits to memory with perfect ease, but cannot think; while a second can think but not commit; and a third can do both; yet a fourth neither, but can sing, or do something else well which the others cannot.

We have already stated the fact of this difference,⁷ though for

a different purpose, and need not repeat it, but require only to apply it to our argument. Its application is this : —

THE MIND is subdivided into Faculties.³³ The brain is the organ of the mind, and must therefore have just as many organs as the mind has Faculties.²⁵ That is, the brain is divided into organs. If the brain acts as a whole it would act just as powerfully when used by one Faculty as when by another. Yet it does not, but acts with ten times more force while executing one set of its functions than another set — a fact for which only its having different organs, some more vigorous than others, could possibly account. How perfectly the phrenological theory explains these differences ! yet how could the *unitarian* action of both the mind and brain cause or analyze them ?

THE RAPIDITY of our mental operations proves a plurality of the cerebral organs. Since the brain is the organ of the mind, all changes in the mind presuppose equal changes in its organ. Now if both were single, their united transition from one class of functions to another could be no more rapid or instantaneous than that of the eye, the finger, or any other corporeal organ, and, of course, not so instantaneous as not to be observable ; and, if not observable, which all admit, it cannot exist ; therefore the mind cannot be a single Faculty. But according to the principle that the mind consists of a plurality of Faculties, any or all of them may be in simultaneous and harmonious action — a principle as remarkable for beauty and consistency as the old theory is for deformity and absurdity.

THE LATER APPEARANCE and earlier decline of some Faculties than others — the sexual than the feeding and other passional, and the retention of the reflective and moral latest of all, has a like cause, and bears a like testimony to this *diversity* of mental powers and cerebral organs. What else could cause them ?

MONOMANIA, or madness on one point with sanity on all others, or sanity on one or more with insanity on the others, obviously has its cause in different cerebral organs. All who know anything of insanity know that most insane patients are sane in most respects, but insane in one or more others. One is a perfect maniac on love, or fear, or rage, or devotion, or mechanism, or melancholy, &c., who is yet perfectly rational in all other respects. The phrenological theory expounds the cause of this perfectly,

because one organ can be inflamed, while the others are normal, just as hand can be inflamed while foot is not; whereas, this whole range of facts is in point blank collision with the doctrine that the mind and brain act *as a unit*.

SOMNAMBULISM AND DREAMING find a perfect explanation in the phrenological theory of different cerebral organs, because one or more can be awake, while the others are asleep, which is utterly inexplicable on any other. If the mental entity were one and indivisible, pray how could that entire entity get up while sound asleep, walk around, or do, or dream of doing, this, that, and the other thing, without knowing what it did, while a large part of this same entity sleeps? The very supposition is preposterous. Every person dreams more or less, and is internally conscious on awaking that one part of him was awake, while another part was asleep and dreaming. Reader, let your own experience be your own logician. Do you need, could you have, any higher proof of the divisibility of the mind and brain than this partial action of them furnishes?

INTOXICATING DRINKS AND LAUGHING GAS bear a like witness. The phenomena attendant on them can be accounted for in no other way, but can be by the phrenological philosophy. They exhilarate, but do not excite all the mental operations *equally*. They make some persons merry, jovial, talkative, oratorical, &c., others, sad, morose, ferocious, or amorous; some smart, others silly; some devout, others blasphemous, &c.; besides affecting the same persons very differently at different times. Now, in case the whole brain acts as a unit, its intoxication must needs exalt *all* the mental operations as much as it does any one of them; but in case the brain is composed of distinct organs, some stronger and weaker than others, of course this exalted action would, as in point of fact it actually does, exhilarate those parts the most which were the most powerful. Behold the *concordance* of all these *ranges* of the mental phenomena with the phrenological theory, and their *discordance* with the *unitarian* action of both!

IN GENERAL, those identical mental phenomena which prove that the mind consists of a plurality of Faculties, also prove that the brain consists of a plurality of organs;³³ and establishing either thereby proves the other also.

THE ONLY QUESTION remaining to render the phrenological

argument complete, is to show what *parts* of the brain perform what functions of the mind. Induction must answer. Three ranges of experiments tell us, — comparative Phrenology, or contrasting the phrenological developments of men and animals with their special characteristics; pathological facts, or lesions and derangements of portions of the brain, as causing a like derangement of particular Faculties of the mind only; and the direct facts of Phrenology, or the correspondence existing between the special talents and characteristics of particular persons and their individual phrenological developments. But to give these facts a logical bearing on this point, it is first necessary that we demonstrate one other natural and phrenological principle, viz., that

40. — SIZE IS A MEASURE OF POWER.

IN ALL CASES, where all the other conditions are the same, the power of any function is the greater or the less in exact proportion to the relative size of the organ which puts it forth. A given stick of wood, or piece of iron, or string, rope, muscle, &c., is two, four, or ten times stronger than it could or would have been if one half, fourth, or tenth smaller than it now is.

ALL MANKIND instinctively estimate power by size. Who would argue that we can gather as much hay from a small field as from a large, the grass being equally thick in each? that a small rope is as strong as a large one, made alike, from the same material? that a small anything is as efficient as a large, both alike in other respects? A hemp rope is indeed stronger than one of the same size made from shoddy, because they differ in *quality*, and so of given sized pieces of wood, iron, &c.

WEIGHT is governed by this same law of size. A large ball of lead is as much heavier than a small as it is larger; yet a small lead ball may be heavier than a large cotton one. In the aggregate, large horses are stronger than small ones, yet some smaller ones are stronger than others which are larger. Let the common sense and universal experience of mankind attest whether, when other conditions are the same, size is or is not a measure of the power of function? Has quantity anything, or nothing, to do with amount of function?

THIS LAW OF PROPORTION of course governs the brain, as well as all else in Nature. Why not? To argue a principle thus ap-

parent and necessary, seems superfluous. Large brains *must* be, and are, more efficient than small ones, when the quality of both is alike, as it substantially is in all the different parts of the *same* brain. *Homogeneousness* is one of the facts of Nature,⁵³ and must needs appertain to the brain; so that if any one part is coarse or fine, strong or weak, active or sluggish, susceptible or blunt, all its parts must needs be about equally so. Surrounding circumstances may provoke one to more incessant and intense action than another, or this may be better disciplined than that, but all such differences are incidental, not fundamental. Let us catechise facts.

ALL QUICK-SCENTED ANIMALS have very large noses, and consequently nerves and organs of smell.

BLOODHOUNDS are both very long from nostrils to eyes, and very large round their noses. So are foxhounds, and all animals which hunt by scent, while those which hunt by sight have smaller noses, so that the size of a given dog's nose admeasures his smell-power. Let the eyes of all who can see attest this fact.

THAT MONSTER LION already mentioned²⁶ had an immense nose, with those bony nasal plates or laminae, on which the nerves of smell are ramified, piled one above another, and packed everywhere, thus presenting the greatest nasal *surface* possible, so that the air, as it passed over these numerous broad, nervous plates, could collect and transmit whatever odors might be floating in the atmosphere he breathed. And on opening his skull, that part of his brain in which this nasal nerve terminates, occupied seemingly about *one fourth* of his entire brain! Both observation and philosophy prove that this principle holds good of the nasal nerves of all keen-scented animals, but that these nerves, and this part of the brain, are deficient in all animals whose smell is feeble.

THE OPTIC NERVES of eagles, and of all quick-sighted and far-seeing birds and animals, furnish a like illustration that size of the visual organ measures its power of function; while those deficient in sight, like moles, have small eyes and optic nerves.

"THE FOLLOWING FACTS go to prove that size in an organ, other conditions being the same, is a measure of power in its function; small size indicating little, and large size much power.

"In our childhood, we have all been delighted with the fable of the

old man who showed his sons a bundle of rods, and pointed out to them how easy it was to snap one alone asunder, but how difficult to break the whole together. The principle involved in this simple story pervades all material substances. For example, a muscle is composed of a number of fleshy fibres, and hence it follows that each muscle will be strong in proportion to the number of fibres which enter into its composition. If nerves are composed of parts, a nerve which is composed of twenty parts must be more vigorous than one which consists of only one part. To render this principle universally true, however, all the compared parts must be of the same *quality*. It may be more difficult to break one iron bolt the size of one of these twigs than the whole bundle of twigs, yet breaking ten *iron* rods together would be as much harder, relatively, than breaking one as their number is greater."

"THE STRENGTH OF THE BONES is always, other circumstances being equal, proportioned to their size. So certain is this, that when Nature requires to give strength to a bone in a bird, and, at the same time, to avoid increasing its weight, the bone is made of larger diameter, but hollow in the middle. That this law of size holds in regard to the blood-vessels of the heart is self-evident to every one who knows, that a tube of three inches diameter will transmit more liquid than a tube of only one inch. And the same may be said in regard to the lungs, liver, kidneys, and every other part. If a liver with a surface of ten square inches can secrete four ounces of bile, it is perfectly manifest that one having a surface of twenty square inches will be able, all other things being equal, to secrete a quantity greater in proportion to its greater size. If this law did not hold good, what would be the advantage of large and capacious lungs over small and confined?"

"THE SPINAL MARROW increases in size at the points where it gives off nerves of sensation and motion most numerously; for example, in the cervical region, where these nerves go off to the upper extremities, and at the lumbar region, where it sends off nerves of sensation and motion to the lower extremities. It is proportionably larger in birds, where it gives off these nerves to the wings, than in the same region in fishes."

"SPEAKING GENERALLY, there are two classes of nerves distributed over the body, those of motion and those of sensation and feeling. In motion, the muscle is the essential or chief apparatus, and the nerve is required only to communicate to it the impulse of the will. But in sensation the reverse is the case; the nerve itself is the chief instrument, and the part on which it is ramified is merely the medium for putting it in relation with the specific qualities which it is destined to recognize."

"THE FOLLOWING CASES illustrate the effect of size on the strength of the functions of these nerves. They are stated on the authority of Desmoulins, a celebrated French physiologist, when no other name is given. The horse and ox have much greater muscular power, and much less intensity of sensation in their limbs, than man; and in conformity with this principle, the nerves of motion going to the four limbs of the horse and ox are at least one third more numerous than the nerves of sensation going to the same parts; whereas in man, the nerves of motion going to the legs and arms are a fifth or a sixth part fewer than the nerves of sensation distributed on the same part.* In like manner, in

* A difference of eight or nine to one.

birds and reptiles which have scaly skins and limited touch, but vigorous powers of motion, the nerves of sensation are few and small, and the nerves of motion numerous and large. Further, whenever Nature has given a higher degree of sensation and touch to any particular part than to the other parts of an animal, there the nerve of sensation is invariably increased. For example, the single nerve of feeling ramified on the tactile extremity of the proboscis of the elephant exceeds in size the united volume of all the muscular nerves of that organ. Some species of monkey possess great sensibility in the tail, and some species of bats have great sensibility in their wings, and in these parts the nerves of sensation are increased in size in proportion to the increase in functional power. Birds require to rise in the air, which is a medium much lighter than their own bodies. To have enlarged the size of their muscles would have added to their weight and increased their difficulty in rising. Nature, to avoid this disadvantage, has bestowed on them large nerves of motion, which infuse a powerful stimulus into their muscles, and increases their power of flying. Fishes live in water, which has almost the same specific gravity with their bodies. To them Nature gives large muscles in order to increase their locomotive powers, and in them the *nerves* of motion are less. In these instances Nature curiously adds to the power of motion by increasing the size of that part of the locomotive apparatus which may be enlarged most conveniently for the animal; but either the muscle or the nerve must be enlarged, or there is no increase of power."

"EACH EXTERNAL SENSE is composed, first, of an instrument or medium on which the impression is made, — the eye, for example; and secondly, of a nerve to conduct that impression to the brain. The same law of size holds in regard to these organs of the senses. A large eye will collect more rays of light, a large ear more vibrations of sound, and large nostrils more odorous particles, than the same organs when small. This is so obvious that it scarcely requires proof; yet, as Lord Jeffrey has ridiculed this idea, Monro, Blumenbach, Soemmerring, Cuvier, Magendie, Georget, and a whole host of other physiologists support it. Blumenbach, when treating of smell, says, 'While animals of the most acute smell have their nasal organs the most extensively evolved, precisely the same holds in regard to some barbarous nations. For instance, in the head of a North American Indian, represented in one of his plates, the internal nostrils are of an extraordinary size,' &c. And again, 'The nearest to these in point of magnitude are the internal nostrils of Ethiopians, from among whom I have eight heads very different from each other, but each possessing a nasal organ much larger than that described by Soemmerring. These anatomical observations accord with the accounts given by most respectable travellers concerning the wonderful acuteness of smell possessed by those savages.' In like manner Dr. Monro primus, — no mean authority, — when treating in his *Comparative Anatomy* of the large organ of smell in the dog, says, 'The sensibility of smell seems to be increased in proportion to the surface, and this will be found to take place in all the other senses.' The same author states 'that the external ear in different quadrupeds is differently formed, but always adapted to the creature's manner of life; thus hares, and such other animals as are daily exposed to assaults from beasts of prey, have

large ears directed backwards, their eyes warning them of danger before.”

“THESE OBSERVATIONS apply to the external portions of the organs of sense, but the inner parts or nerves are not less subject to the same law of size. Georget, an esteemed physiological writer, in treating of the nerves, affirms that ‘the volume of these organs bears a uniform proportion, in all the different animals, to the extent and force of the sensations and movements over which they preside; thus, the nerve of smell in the dog is larger than the five nerves of the external senses in man.’ The surface of the mucous membrane of the ethmoidal bone, on which the nerve of smell is ramified, is computed to extend in man to twenty square inches, in the seal to one hundred and twenty. The nerve of smell is small in man and the monkey tribe; scarcely, if at all, perceptible in the dolphin; large in the dog and the horse, and altogether enormous in the whale and the skate, in which it actually exceeds in diameter the spinal marrow itself. In the mole it is of extraordinary size, while the optic nerve is very small. In the eagle the reverse is observed, the optic nerve being very large, and the olfactory small. Most of the quadrupeds excel man in the acuteness of their hearing, and accordingly it is a fact that the auditory nerve in the sheep, cow, horse, &c., greatly exceeds the size of the same nerve in man. In some birds of prey, which are known to possess great sensibility of taste, the palate is found to be very copiously supplied with nervous filaments.”

“THE ORGAN OF SIGHT, however, affords the most striking example of the influence of size. The office of the eyeball is to collect the rays of light. A large eye, therefore, will take in more rays of light, or, in other words, command a greater sphere of vision, than a small one. But to give intensity or power of vision the optic nerve also is necessary. Now the ox, placed on the surface of the earth, is of a heavy structure, and ill fitted for motion, but has a large eyeball, which enables him to take in a large field of vision without turning; yet as he does not require very keen vision to see his provender, on which he almost treads, his optic nerve is not large in proportion to his eyeball. The eagle, on the other hand, by ascending to a great height in the air, enjoys a wide field of vision from its mere physical position. It looks down from a point over an extensive surface. It has no need, therefore, for a large eyeball to increase artificially its field of vision, and accordingly its eyeball is comparatively small. But it requires from that height to discern its prey upon the surface of the earth; and not only is the distance great, but its prey often resembles in color the ground on which it rests. To the eagle, therefore, great *intensity* of vision is necessary. Accordingly, in it the optic nerve is increased to an enormous extent. Instead of forming a single membrane, only *lining* the inner surface of the posterior chamber of the eye, as in man and animals which do not require extraordinary vision,—and consequently only equalling in extent the sphere of the eye to which it belongs,—the retina, or expansion of the nerve of vision in these quick-sighted birds of prey, is found to be composed of a great number of *folds*, each hanging loose into the eye, and augmenting, in a wonderful degree, not only the extent of the nervous surface by the mass of nervous matter, and giving rise to that intensity of vision which distinguishes the eagle, falcon, hawk, &c. In the case

of the senses, we plainly see that when Nature designs to increase their power, she effects her purpose by augmenting the size of their organs." — *George Combe.*

THE FUNDAMENTAL IMPORTANCE of this principle to Phrenology, along with the captiousness of its opponents, constitute our excuse for presenting thus copiously a principle of Nature just as obvious as the noonday sun in a clear sky. Behold how perfectly this basilar principle of Phrenology accords both with all the facts and philosophies of Nature!

41. — SIZE OF BRAIN AS INFLUENCING POWER OF MIND.

GREAT MEN have great brains. Cuvier's brain weighed over four pounds ten ounces; and that of the great surgeon, Dupuytren, weighed four pounds ten ounces. Byron's brain weighed about as much, though his hat was small, probably because his brain was large at its base, but conical, and deficient in the moral region; yet its great *weight* establishes its great size. Bonaparte's brain weighed as much as Cuvier's. That he wore a very large hat, is attested by one of his body guard, Colonel Lehmanauski, who fought one hundred and seven battles under him, and was with him, and waited on him continually, from first to last, except when he was on the island of St. Helena. Lehmanauski told the Author that one day, on leaving Bonaparte's tent, by mistake he put the emperor's hat upon his head, which slipped *clear down over his eyes*, and yet the colonel's head measured twenty-three and one half inches in circumference above the ears! Of course Bonaparte's must have exceeded twenty-four inches. The Author found Webster's massive head to measure over twenty-four and one half inches, Clay's twenty-three and a half plus, and Van Buren's equally large. That of Chief Justice Gibson, the greatest jurist of Pennsylvania, measured twenty-four and one quarter inches. Hamilton's hat passed over the ears of a man whose head measured twenty-three and a half inches. Burke's was immense; so was Jefferson's; while Franklin's hat passed over the ears of a twenty-four inch head. Judge McLean's head exceeded twenty-three and one half inches. The heads of Washington, Adams, and a thousand other celebrities, were also very large. The head of Lord Bacon was immense in size, so was that of Chief Justice Marshall, Judge Story, and of

Chancellor Kent, the greatest jurist of New York, as the Author attests from the *personal* inspection of them all except Bacon:

THE BRAIN INCREASES AND DECREASES as the mental capacities increase and decrease. Thus the brains of infants are small, but grow as their general power of mind grows, are largest at maturity, yet diminish in size as second childhood weakens their mental capacities.

MOST IDIOTS have small heads. A post-mortem cast of a New York idiot's brain showed that it was not as large as a common-sized goose egg. The Author has literally seen hundreds of idiots whose brains were small.

"COMPLETE INTELLIGENCE is absolutely impossible with a head below fourteen inches in circumference. In such cases idiocy, more or less complete, invariably ensues. To this rule no exception ever has been, or ever will be, found." — *Gall*.

"DE VOISIN, in the Journal of the Phrenological Society of Paris, for April, 1835, reports observations made upon the idiots under his care in the Parisian Hospital of Incurables, in order to verify this assertion of Gall, and mentions that he found it confirmed in every case. In the lowest class of idiots, where the intellectual manifestations were nihil, the horizontal circumference just above the orbit varied from eleven to thirteen inches; while the distance from the root of the nose backward over the top of the head to the occipital spine was only between eight and nine inches. When the size varied from fourteen to seventeen inches of horizontal measurement, and eleven to twelve in the other direction, glimpses of feeling and random intellectual perceptions were observable, but without any power of perception, or fixity of ideas. Lastly, when the first measurement extended to eighteen or nineteen inches, though the head was still small, the intellectual manifestations were regular enough, but deficient in intensity. In the full-sized head, the first measurement is equal to twenty-two inches, and the second to about fourteen. So large was the head of Spurzheim, that, even on his *skull*, these two measurements amount to twenty-two and one fourth and thirteen and six tenths inches respectively." — *Geo. Combe*.

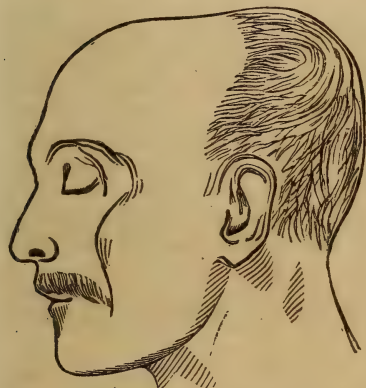
"WE have made such a number of observations in various countries, that we have no hesitation in affirming that too small a brain is unfit for the manifestation of the mind, though idiotism may result from other causes." — *Spurzheim*.

"THE HEADS OF IDIOTS, unless otherwise diseased, are characterized by deformity or smallness; the heads of eminent men, by their magnitude. Those who are not large in stature have heads disproportionately large to their bodies. Grecian artists represented Pericles covered with a helmet to conceal this disproportion, and moderns have left Napoleon's in its natural size, but placed it on a colossal body to make it conform to their ideas of proportion. Artists have substituted so small a head of Venus de Medici for the original which was lost, that every woman,

with one equally small, would, of necessity, be a simpleton." "I have never found in ancient or modern times any man of great genius whose head was not large, especially in his forehead. The busts and engravings of Homer, Socrates, Plato, Demosthenes, Pliny, Bacon, Sully, Galileo, Montaigne, Corneille, Racine, Bossuet, Newton, Leibnitz, Locke, Paschal, Boerhaave, Haller, Montesquieu, Voltaire, J. J. Rousseau, Franklin, Diderot, Stall, Kant, Schiller, &c., show that they had large heads. Voltaire's head was large, especially anteriorly, though his small face made his head appear less than it was." — *Gall*.

THE Edinburgh Phrenological Journal illustrates the smallness of the heads of idiots, in contrast with the large-sized heads of men of superior talents, by the following engravings of the head of an idiot, and that of Rammohun Roy, a learned Brahmin, and noted reformer, a man of great learning, and superior natural talents.

LARGE-SIZED BRAIN.



No. 9.—RAMMOHUN ROY.

SMALL BRAIN.



No. 10.—AN IDIOT.

"IDIOTCY FROM BIRTH always accompanies an original defect of the brain." — *Pinel*.

"THERE is undoubtedly a very close connection between the absolute size of the brain and the *intellectual* powers and functions of the mind. This is evident from the remarkable smallness of the brain in cases of congenital idiocism, few much exceeding in weight that of a new-born child." — *Gall*.

SPURZHEIM, Esquirol, Halsam, and others, have already observed this, which is also confirmed by my own researches. The brains of very talented men are remarkable, on the other hand, for their great size." — *Tiedemann*.

THE BRAIN is observed progressively to be improved in its structure, and, with reference to the spinal marrow and nerves, augmented in volume more and more, until we reach the human brain — each addition being marked by some addition to, or amplification of, the powers of the

animal; until in man we behold it possessing some parts of which animals are destitute, and wanting none which theirs possess." — *Edinburgh Review*, No. 94.

"GREAT HEADS LITTLE WIT, little heads not a bit," is a trite but true proverb expressive of this law that very small brains accompany idiocy, and also another that dropsy on the brain indicates a want of sense. Yet this involves the doctrine of the Temperaments, and the effects of *quality* and other conditions of the brain and organism upon the manifestations of the mind.⁵² All Phrenologists maintain that size is one, and yet *but* one of the conditions of power. And the longer I practise Phrenology the more convinced I become that the influence of organic structure, health, and these "other conditions," modify and actually control character even more than the earlier Phrenologists express. Bright, apt, smart, literary, knowing, even eloquent men, &c., often have only average, even moderate-sized heads, because endowed with the very highest organic *quality*; yet such are more admired than commanding; more brilliant than powerful; more acute than profound. Though they may show off in an ordinary sphere, yet they are not the men for *great* occasions; nor have they that giant *force* of intellect which moulds and sways nations and ages. Yet these, and like exceptions to this general law, that size of brain measures power of mind, belong in the chapter on the Temperaments rather than in that on the proofs of Phrenology.⁵²

SECTION III.

COMPARATIVE ANATOMY AND INJURIES OF THE BRAIN AS PROVING THE TRUTH OF PHRENOLOGY.

42. — COMPARATIVE ANATOMY PROVES PHRENOLOGY.

MAN AND ANIMALS are constructed upon the same general principles. The analogy between them is perfect, as far as both possess like functions. Every individual of both, and, indeed, of whatever lives, must breathe, feed, sleep, and supply all the other cardinal wants of life. In what animal, fish, fowl, insect, or anything else endowed with life, is any one of these functions omitted? Not one, in any living thing.

LIKE ORGANS also execute like functions in them all. Thus

when Infinite Wisdom has devised stomach as the instrument for resupplying exhausted nutrition in man, He resupplies it by a like organ throughout whatever eats or digests; when He has devised eyes and light as the instruments of vision in either, whatever sees at all sees by means of eyes and light; when He has invented muscular contraction as the instrumentality of locomotion, whatever moves at all, — the eagle as he soars aloft beyond our vision, the whale as he ploughs the furrows of the mighty deep, and man as he walks forth, proud in the consciousness of his strength, — each and all move by means of muscular contraction alone; and ten thousand just such other illustrations render this inference scientific, that in case He has seen fit to construct man in accordance with the principles of Phrenology, He has also constructed beasts and birds, fish and reptiles, in accordance with these same great phrenological principles; and if them, also him. Then are either so constructed? for if either is, therefore both must be. Who will call this *basis* of our argument in question? Let us see whether it proves or disproves Phrenology.

OUTLINE TRUTH signifies truth in detail. The truth of any *general* principle proves that this staminate truth works itself out throughout all the minutiae of that department. Our subject presents the evidences for and against this science in those great *outlines*, respecting which there can be no possibility of mistake. What testimony, then, do these major facts bear? That Phrenology holds true of *whatever has a brain*. Let us scrutinize detailed facts.

OUR STARTING POINT is the external opening of the ears, or *meatus auditorus*, where the brain begins to form, at the head of the spinal marrow.

THE ZYGOMATIC ARCHES, engraving No. 90, through which the masticatory or chewing muscles pass, join the head posteriorly at this point. This renders our landmarks distinct, and easily observed.

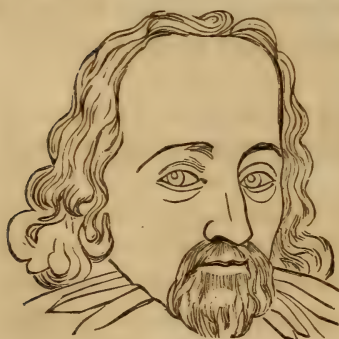
THE ANIMAL PROPENSITIES, according to Phrenology, are situated around and above the ears, that is, around and above the posterior termini of these zygomatic arches; while the moral sentiments are located in the upper portion of the brain, the reasoning organs in the upper portion of the forehead, and the perceptive in its lower portion, over and around the eyes. Engraving No. 1, or the groupings of the organs, illustrates this point.

ANIMALS AND MAN have the animal propensities in common. Both eat, defend themselves, are cautious, amatory, parental, secretive, gregarious, &c. Of course, in case Phrenology is true, the phrenological organs of these propensities, which are located around the ears, should and would be large in both. And they *are* so, and compose almost the entire brain of animals, as they accordingly embrace most of their mental characteristics. In other words, those *organs* are developed in both whose *Faculties* are common to both.

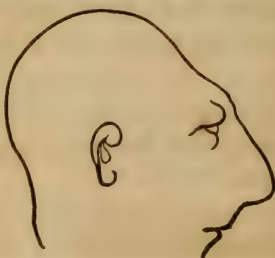
THE PERCEPTIVE Faculties are also active in both, and these *organs* large in each. They are located over and around the eyes. That is, the entire *base* of the brains of both is well developed, and the Faculties ascribed by Phrenology to this base are strong in both.

THEIR MORAL AND RELIGIOUS organs, however, differ in each quite as much as do their corresponding mental qualities; and these organs differ just *as* do their mental manifestations. Thus, man possesses, while brute lacks, reason. We do not aver that all beasts are wholly destitute of reason, for all obviously possess traces of it;³ yet it is comparatively so deficient as to be barely perceptible in all animals, while it forms a special characteristic of mankind.

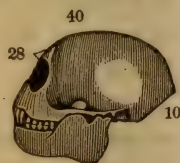
LARGE AND SMALL INTELLECTUAL REGIONS.



No. 11. — BACON.



No. 12. — IDIOT.



No. 13. — INTELLIGENT MONKEY.



No. 14. — SNAKE.

THESE ORGANS of reason occupy the upper and lateral portions of the forehead, which they render high, wide, broad, and deep, in proportion as they are developed. Man's forehead, then, should be, in case Phrenology is true, as much higher, broader, and fuller,

as he has more reason than beast, which is considerable; and so it is. Mankind have good-sized foreheads, with vigorous reasoning capacities, while brute lacks both. The Phrenology of each is exactly as it would be in case this science were true. See accompanying engravings of Lord Bacon, No. 11, idiot, No. 12, a monkey, No. 13, a snake, No. 14.

THE MORAL ORGANS are large in man, as are their corresponding phrenological sentiments; while brute lacks both. These organs, located on the top of the head, cause it to rise above the ears, and become elongated on top, in proportion as they are the larger. Man possesses, but brute lacks, both these Faculties and their organs. A dog cannot be taught to pray, nor a swine to think, because they are deficient in these *powers of mind*; and mark how the foreheads of all brutes slope directly back from the root of their noses, while the human forehead is the higher and broader, according as nations and races are the more or less reflective and inventive; and is the longer and higher on top in proportion as man is more moral and religious than beast. This is not incidental; it is universal. It is not true of now and then one man and a beast, but of *all* mankind in contrast with all brutes. Let the eyes of every reader, directed to any and all beasts and all human beings, prove to the *senses* of all who have and use them, that the phrenological developments of man correspond with his specialties, and of brutes with theirs; that wherever the *organs* of reason are found, the reasoning *capacities* accompany them; but wherever these organs are deficient, these faculties are also wanting. Behold this *inductive* proof of phrenological truth commensurate with the entire kingdom of man on the one hand, in contrast with that of animal on the other, *every individual* of each thus augmenting this phrenological evidence! Opponents, *refute* this argument, or else admit it, not ignore it. Every member of both the human family and of the entire brute creation challenges you to keep silence till you *do* answer this identical point. And when you have answered this, we will give you another analogous one, namely: that

THE MORE INTELLIGENCE, THE HIGHER THE FOREHEAD. Snakes, turtles, frogs, alligators, &c., very low in sense, have very low heads. Thus contrast the foreheads of turtle and snake, Nos. 14 and 15, with those of monkey and baboon, Nos. 13 and 16, dogs

of ordinary intelligence with those of poodles, Newfoundlands, and water spaniels, and mark the greater development of the intellectual lobes in intelligent animals over those less "knowing." The foreheads of wolves and Newfoundland dogs furnish a most striking illustration that forehead and tractability, and the want of both, accompany each other.

MY FATHER'S OX was most remarkable for width between his eyes, and also for finding his way home anywhere through Michigan woods, where there was no underbrush *and no roads*, in the darkest nights. That is, he had very large Form in character, so that he could see perfectly in the night, and knew places seen before; and he was one inch broader, from eye to eye, than his mate, not thus gifted. All cattle and horses, especially kind, good, docile, and tractable, will be found to be correspondingly the fuller from their eyes up into the middle of their foreheads; that is, to have large organs of Kindness and perceptive intellect, while shy, skittish horses, those easily frightened, will be found narrow between their ears, and bold, resolute ones wide there.

PERCEPTIVES LARGER THAN REFLECTIVES.



NO. 16.—REMARKABLY INTELLIGENT ORANG-OUTANG.

BABOONS, monkeys, gorillas, &c., have the perceptive organs — those over the eyes — so large that Nature can now put their eyes in *under* this bony arch, which she cannot do in animals less perceptive, where these super-orbital *organs* are less developed.

GORILLA furnishes a still more striking illustration of an immense perceptive lobe, with scarcely any development of the reflective or moral organs, having a head quite like baboons. Accordingly all those *Faculties* in him which work through his eyes are remarkably acute, along with lack of understanding.

GREAT MEN HAVE GREAT FOREHEADS. All men have a much greater development of brain in their intellectual and moral lobes than animals, and manifest the corresponding intellectual and moral Faculties in a proportionate degree; while the Caucasian race has more brain above and before the ears than any of the other races, and proportionally more of the mental powers Phrenology locates there; which corresponds with their intellectual and moral superiority; while the really great men of this race have foreheads as much larger than ordinary men as they have more intellectual calibre. Behold the towering foreheads of Shakspeare, Franklin, Locke, Bacon, Brown, Marshall, Kent, Edwards, Rush, and Kant. All deep and profound reasoners, all original and powerful thinkers, without a solitary exception, possess really immense Causality and Comparison.

Among all the heads observed by the Author, he has never seen one with so very high, broad, and deep a forehead, in which the reasoning *organs* were developed in so extraordinary a degree, as in

that of Daniel Webster; and where do we find his superior for profound casuistry and originality of thought! Let his great forehead and great reasoning powers speak for themselves. Men

INTELLECTUAL ORGANS LARGE.



No. 17. — DANIEL WEBSTER.

of ordinary talent possess a respectable endowment of these organs; the Hindoos, Chinese, American Indians, and African race still less, but much more than the lower order of animals; idiots scarcely any; and the lower order of animals none, or next to none at all.

PERCEPTIVES LARGE, REFLECTIVES SMALL.



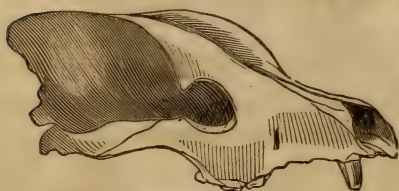
No. 18. — BABOON

MONKEY tribes have great Parental Love, with large Amativeness, Secrecy, and Observation, as in engravings Nos. 13 and 18, at 10 and 28, with small Causality, moral organs, and Expression, yet some Comparison; and their mental manifestations correspond perfectly with these developments. Crows have large

Caution and Secrecy, in head and character. All cats, foxes, weasels, minks, tigers, leopards, owls, and all animals which employ strategy in approaching and seizing their prey, have larger Secrecy than Destruction; yet those more fierce than cunning, like bears, lions, dogs, hyenas, wolves, &c., have larger Destruction than Secrecy, with both large; while deer, cattle, horses, hens, doves, and others preyed upon, have little Destruction, more Secrecy, and large Caution.

LOCATION is immense in dogs, swine, and bears; and accordingly,

LOCALITY AND DESTRUCTION LARGE.



No. 19. — Dog.

dogs can chase deer day after day through forests never before seen, making turnings and angles innumerable and immeasurable, except by themselves, and then "strike a bee line" for home; while pigs and cats, tied up tight in a bag, and transported no matter

where, nor with how many turnings, on being released, start straight back to their old home. Dogs bite and tear more than cats, and have the most Destruction; while cats are stealthy and treacherous, even in their gambols, and accordingly have more Secrecy than

Destruction. Male dogs have no Parental Love, either in head or character, while monkeys, robins, bluebirds, partridges, and females generally, have both this organ large, and manifest this Faculty almost to desperation. It is prodigious in female bears, and accordingly they fight for their cubs with the utmost fierceness.

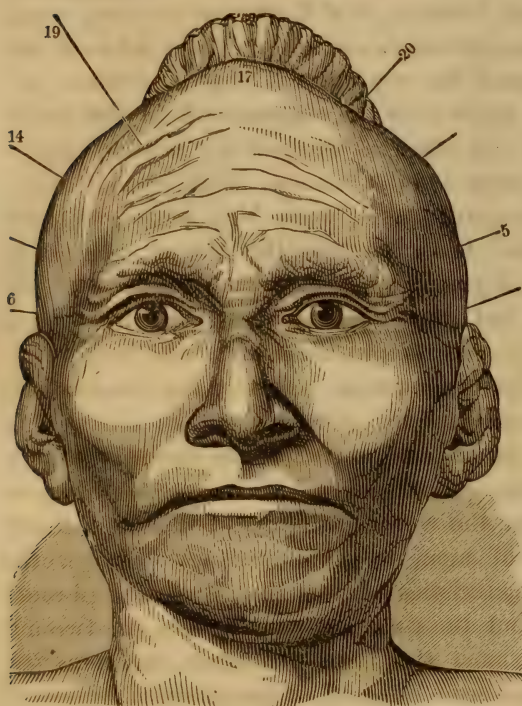
A FARMER in Alleghany County, New York, one morning found his sow and litter of pigs missing, and inferred, from blood and bear tracks in and around the sty, that a bear had eaten and carried off both; till, a while after, he encountered in the forest a large she bear, having this identical litter of his missing pigs in her maternal care. A sharp conflict ensued. Determined to recover his stolen stock, he gave battle, while Mrs. Bruin, actuated by still stronger Parental Love, evinced the utmost courage in defending her adopted offspring, until, outwitted by the skill of her human antagonist, but determined to retain at least part, grabbing one of the little squealers in her mouth, she fled.

EVERY MENAGERIE affords numerous and striking illustrations of the truth of Phrenology. All animated nature teems with facts in its favor; and no striking instance has been, or can be produced, through all the gradations and classes which compose the animal kingdom, from the worm up to man, and even through all the different races of men, of a discrepancy between the known and marked characteristics of an animal, and their phrenological developments; but the coincidences between the two are invariably found to be most striking. Inasmuch, then, as the phrenological phenomena, from one end of the chain of animated beings to the other, are uniformly found to accord with the character, it follows that the same phrenological law governs *all* animals, and causes this uniformity.

ALL INDIAN HEADS and skulls the Author ever saw, and he has seen them literally by thousands, have an extreme development of Destruction, Secrecy, Caution, Firmness, Devotion, Observation, Size, Form, and Locality, with full Eventuality, and moderate Causation, Kindness, Beauty, and Friendship. This combination of Faculties indicates just such traits as Indians generally possess. Their extreme Destruction would create that cruel, bloodthirsty, and revengeful disposition common to the race, which makes them turn a deaf ear to the cries of distress, and steels them to such acts of barbarity as they are wont to practise

in torturing the hapless victims of their vengeance. Their extremely large Destruction, combined with their large Secrecy and Caution, and less

DESTRUCTION AND SECRET DEVOTION FIRM; PERCEPTIVES LARGE; TASTE, HOPE, AND CAUSALITY MODERATE.



NO. 20.—BLACK HAWK, THE SIOUX CHIEF.

Force, would cause them to employ "cunning and strategem in warfare, in preference to open force;" would give them less courage than cruelty; render them wary, extremely cautious in advancing upon an enemy, and lurking in ambush; and, with high Firmness, admirably fit them to endure privation and hardship, and even the most cruel tortures, yet unconquerable; and, with large Ambition added, disposed to glory in dark deeds of cruelty; in scalping the fallen foe, and in butchering helpless women and children.

Their full Conscience would make them grateful for favors, and, according to their contracted ideas of justice, honest, upright, and faithful to their word; and these constitute the principal sum of their moral virtues; but when we add their high Devotion and Spirituality, we find them credulous, religious, and superstitious. Their small amount of brain in the coronal region of the head, when compared with their immense development of the animal passions and selfish feelings, would bring them chiefly under the dominion of their animal nature, and render them little susceptible of becoming civilized, humanized, and educated: hence, the rugged soil which they present to the labors of the Christian missionary. Their large Observation, Location, and Percep-

tives, Destruction, Secrecy, and Caution, would cause them to delight in the chase, and admirably qualify them to succeed in it; whilst their moderate Causality would render them incapable of producing any inventions and improvements, and of reasoning profoundly. Their small Acquisition would create in them but little desire for property; and this would result in a want of industry, and leave them, as we find them, in a state of comparative destitution as regards the comforts and even necessities of life. The large Parental Love of their females admirably qualifies them to protect and cherish their offspring under the peculiarly disadvantageous circumstances in which they are placed; whilst its small endowment in their males would cause them to be comparatively indifferent to their children, and to throw the whole burden of taking care of them while young upon the mother. Their large Tune and Destruction would give them a passion for war songs and dances, and these combining with their large Eventuality, would cause them to adopt this method of perpetuating their warlike exploits.

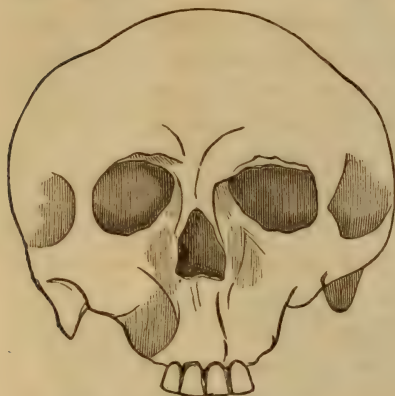
In Washington, the author examined the heads of about twenty Indians of the Cherokee delegation to Congress, in whom he found the animal portion of the brain relatively smaller, and the human and reasoning organs much larger, than in Indian heads generally; and this perfectly harmonizes with, and accounts for, the fact, that this tribe is less savage, and more intellectual, than any other. Indeed, the phrenological developments of some of the *half-breeds* were decisively superior. Those examined from Indiana possessed a much larger development of Destruction, and were less talented and civilized.

EXCEPTIONS as to both heads and characters of course exist; especially among their chiefs. Red Jacket had a large frontal and coronal lobe, especially a high, bold forehead, and towered equally above his peers in hard sense. John Ross has a superior head and character. So has Red Cloud. So had some of his escort to Washington; and all *immense mouths*. Black Hawk had but little Kindness in his head, Firmness, Dignity, and Love, were small; Destruction, Caution, and Devotion were large, but Hope was moderate; yet he will come up again. Beauty and Causation were moderate. See accompanying engraving, No. 20. The Utes are as inferior in head and character as any the Author has

seen, while the Sioux have organisms, physical and phrenological, every way superior to the Chippeways.

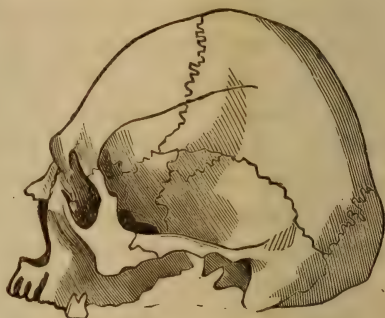
FLATHEAD INDIANS anciently chose for their model of beauty that form of head they found oftenest in their greatest war chiefs, their national aristocrats, who required prodigious perceptive, ambition, and propensities, but only weak reflectives, affectional, and moral. They could not have become the leaders of

VERY LARGE ANIMAL, SMALL MORAL.



No. 20 a.—ANCIENT MEXICAN.

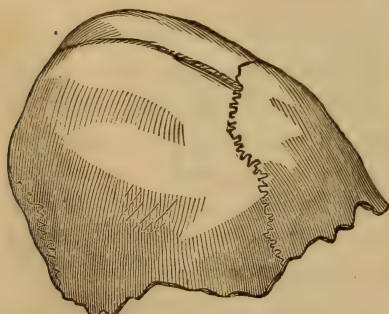
LARGE PERCEPTIVES, AND ANIMAL ORGANS WITH DEFICIENT REASON.



No. 21.—NATCHEZ FLATHEAD INDIAN.

those predatory, avenging bands, unless they had possessed in character extreme Cunning, Cruelty, Caution, Dignity, and Devotion, with weak Friendship, Parental Love, Kindness, and Causality, which exactly corresponds with the model they have selected.

THE LARGEST and broadest of these engravings (No. 20), is after Del Rio, from an original Mexican, before the conquest; the next, No. 21, a Natchez, from high up on the Alabama River; No. 23, a Columbia River Flathead skull in the Author's collection; the two steeple heads, Nos. 24 and 25, after Del Rio, from Morton's *Crania*, are ancient Flathead Mexicans; and the others represent Natchez Flatheads.



No. 23.—FLATHEAD INDIAN.

THE FACT is certainly remarkable that all these Flatheads, ancient and modern, have so flattened their heads as to represent

prodigious perceptives, weak reflectives, and extreme Caution and Cunning, the very traits their warriors required, along with large Devotion, for of course they trusted to "the Great Spirit" for success, yet had little sympathy for distress, or love of their own

LARGE PERCEPTIVE AND ASPIRING, WITH DEFICIENT REASONING.



Nos. 24 and 25. — MEXICAN STEEPLE FLATHEADS, AFTER DEL RIO.

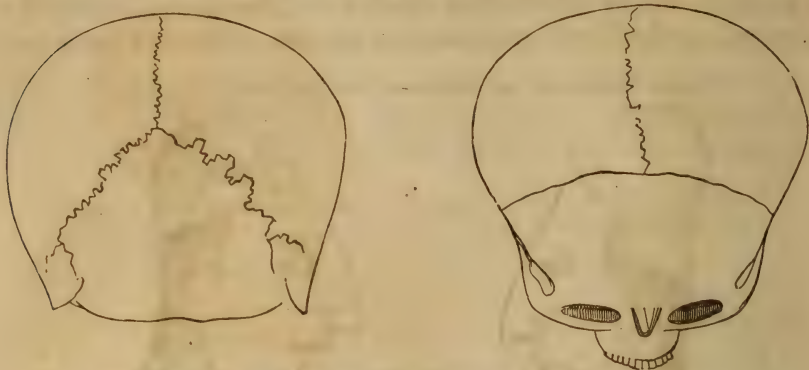
families, as either would interfere with their war spirit. The coincidence is perfect between the phrenological shape of their heads, and their peculiar mode of warfare. Who will say that this is incidental? Who will deny that they took their pattern, after which every doting mother must model her darlings, from the heads of their ancient chiefs, probably those who followed the war path a thousand or more years ago!

MORTON'S CRANIA AMERICANA, from which six of these drawings were copied, contains exact representations on stone of skulls from all the various Indian tribes, ancient and modern, every one of which shows that Indian heads, according to Phrenology, coincide perfectly with their peculiar traits of character. His collection was varied and immense, of both human and animal crania, and so perfectly confirmed this science that he says in his dedication,—

"It may be thought, perhaps, by some readers that these details are unnecessarily minute, especially in the phrenological tables. In this study I am yet a learner, but you and I have long admitted its fundamental principles. There is a singular harmony between the mental

character of the Indian, and his cranial developments, as explained by Phrenology."

SECRETION, CAUTION, AND PROPENSITIES IMMENSE.



NOS. 26 and 26 A. — BACK AND TOP VIEWS OF A NATCHEZ FLATHEAD.

THE AUTHOR of the best American work on anatomy extant would not write thus unless he found ample proofs of so positive an assertion.

A CHARIBE SKULL, from a tribe of cannibals located near the Isthmus of Darien, examined by the Author, presented altogether

INTELLECT AND MOR-
ALS SMALL.



NO. 27. — CHARIBE
INDIAN.

the worst phrenological developments he ever saw. In shape it bore a strong resemblance to that of the monkey, except that Destruction, Secrecy, and Devotion were larger. Of intellect, it possesses very little; and no description can adequately set forth their barbarity and brutal ferocity, no pen describe their degradation. Thus, in passing from Caucasians to Indians, and from one tribe of Indians to another, we find, in every instance, a striking coincidence between the phrenological developments of each, and their known traits of character.

THE AFRICAN RACE, as found in America, furnish another instance of the striking correspondence between their known character, and their phrenological developments. They generally possess, as shown in the accompanying engraving, large Ambition and Perceptives, as seen in the length of their heads from nose to crown, large Devotion and Tune, Hope, Caution, and Love, but less Destruction and Force. Hence their love of hilarity, song, and dance, without much wit, as well as their rapid increase. Their larger

Tune and Expression than Causality would create exactly such composition as we meet with in negro songs, doggerel rhymes glowing with vivacity and melody, and containing many words and repetitions, with but few ideas. Their Friendship would make them extremely attached to their families and the families of their masters, and pre-eminently social.

Their excessively large Ambition would create in them that fondness for dress and show, and that pride and vanity, for which they are so remarkable. Their large religious organs would produce those strong religious emotions, and that disposition to worship, for which they are distinguished, as well as those rare specimens of eminent piety sometimes found among them. Their variable selfish organs would cause those extremes of temper and character which they display; sometimes running into cunning, and general viciousness and cruelty, and sometimes showing the opposite characteristics. Their large Spirituality accounts for their belief in ghosts and supernatural events so often manifested among them; whilst their large Expression, combined with their large perceptive organs generally, would create in them a desire to learn, and enable them to succeed well in many things.

FORM is almost always large in colored people. All can easily perceive their greater relative breadth between their eyes than in whites. Accordingly, they can see better in the dark, and objects farther off than whites; and colored children, as attested by all their teachers, learn to read and spell sooner and easier than whites; yet, as a general rule, all have narrower and more retreating foreheads, and less depth of understanding. They have more of the perceptives with sagacity, but less of the reflectives and originality.

OF INDIANS the same is substantially true, except as to reading.



NO. 28. — AFRICAN HEAD.

THE HINDOOS are no less striking in their phrenological developments and characteristics. In them the organs of Destruction and Resistance are generally small, which renders them less cruel and warlike than the American Indians or the European race. Their extremely large Devotion and Spirituality produce that religious enthusiasm and superstition for which they are so noted, and their large Acquisition and small Conscience often make them thievish.

ANCIENT EGYPTIAN SKULLS by hundreds from the catacombs of Egypt have fallen under the observation of the Author, in all of which he found Amativeness and Devotion altogether in preponderance over all others, and sensuality and religion were their two master passions, or rather a sensual religion, like Aaron's rod, swallowed up all else. Yet the middle and lower portions of their foreheads were well developed, which corresponds with their literary tastes and progress. All their affectional *organs* were large and Faculties strong, while Beauty and Construction were full in their heads and characters; yet Destruction and Force were deficient in both.

MALE AND FEMALE heads prove Phrenology by their differing from each other according to like differences in their characters. Men are much more bold, brave, cool, determined, amorous, and reflective than women, and have corresponding phrenological developments, viz., heads wider through from ear to ear, larger at the nape of the neck, and higher at the crown; that is, are largest in Force, Amativeness, Firmness, Dignity, and Reason; while the female head is longest from front to occiput; that is, in Parental Love and the Perceptives; narrower, because the animal organs are less developed; and higher and longer on top, or more moral and religious, — differences which obtain in their characteristics.

INFANTILE HEADS are larger in their base and crown than in the frontal and moral lobes, which they are too young to express much, yet grow fastest in their superior organs when old enough to manifest these functions. Their Phrenology and character thus correspond.

THE WORLD IS FULL of like facts, ancient and modern, human and animal, individual and general, confirmatory of Phrenology, *without any countervailing ones*. Naming a few among so many rather belittles than magnifies our argument, — is quite like counting sands on the beach.

THESE VARIOUS RANGES of facts are but the outworkings of that organic science we are demonstrating. SERIES of facts as numerous and as uniform as these cannot be accidental, but must needs originate in some fundamental *law*, and that law is Phrenology. At least, these and like classes of facts throw the "burden of proof" upon its opponents, while they "pause for a reply." Give it, or "ever after hold your peace."

BREADTH of head at the ears in all carnivora, and narrowness in all grammivora, furnish another equally obvious and conclusive proof that Phrenology is true. This principle, properly stated, is this:—

ALL BEASTS AND BIRDS OF PREY are very wide at their ears, where Phrenology locates Destruction, and where all animals and birds preyed *upon* are *narrow*.

ALL LIONS are broader at Destruction relatively than any other beast, while all sheep are narrow there. The head of that monstrous lion, already mentioned,²⁶ had nearly all of his small brain crowded into the region of Destruction and Appetite, and at the termini of the nerves of sight and smell. There was scarcely a spoonful in the entire balance of this skull. Mark how perfectly this coincides with the characteristics of the lion!

THIRTY POUNDS or more of raw meat at each meal, warm with life, and richly flavored with sanguineous gravy, barely suffices him. Hence Appetite in him is very large.

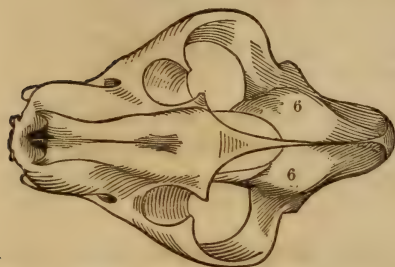
HE MUST KILL his supper before he can enjoy it. This requires powerful Destruction.

HE MUST FIND it before he can kill it, and, being a night animal, he must find and kill it *in the night*, which requires immense organs of sight and smell, both of which he possesses. His eye must be accurate, and his movements stealthy, till ready to spring. His prey must now be frightened, which his terrific roar, the expression of Destruction, located by Appetite, effects. Though his powerful temporal muscle pressed upon Destruction and Appetite, yet these lobes had crowded his powerful skull down and out, so as to lay in two great folds right at these organs; that is, right under the termini of his zygomatic arches, *but nowhere else*, except directly over his eyes.

BENGAL TIGER's head closely resembles lion's, except that it is less in its size, and in that of these special organs. The accom-

panying engraving of the skull of the largest and finest royal Bengal tiger the Author ever saw serves the double purpose of illustrating the tiger's and the lion's head just described.

DESTRUCTION AND SECRECY LARGE.

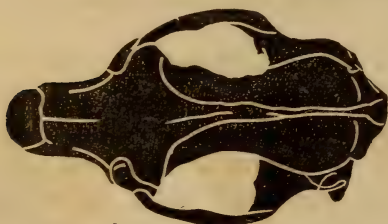


No. 29—TIGER, TOP VIEW.

No. 30.—CAT,
SIDE VIEW.No. 30 A.—BACK
VIEW.

CATS have a similar organism, and like characteristics, though less strongly marked. Let those who wish to verify this point experimentally, take up any cat or kitten, purring around their own firesides, and besides finding its head broad and full at its ears, they will also find, about half an inch above the opening of each ear, a round projecting point, quite like young horns, precisely where Secrecy is located, Fig. 5, in engravings 28 and 29, and cunning is the distinctive trait of all cats, while Destruction is next. Behold how perfectly their phrenologies accord with their characteristics!

DESTRUCTION LARGE.



No. 31.—BEAR, TOP VIEW.



No. 32.—BACK VIEW.

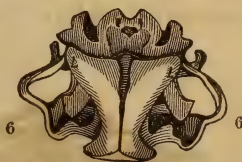
GRIZZLY BEARS have a like immense organ of Destruction, together with a corresponding fierceness of character, which is really fearful. The Author had a skull of one, which came next to that of lion in the size of Destruction and Appetite, yet without the Secrecy of felines in his head; and this quality is deficient in their character.

THE BLACK BEAR, two engravings of which, a back view and a top, engravings Nos. 31 and 32, show how low his head on top, but how wide and full at Destruction and Appetite.

DESTRUCTION LARGER THAN CUNNING.



No. 33.—HYENA, SIDE VIEW.



No. 34.—HYENA, BACK VIEW.

TO THE HYENA, engravings Nos. 33 and 34, a like train of reasoning applies. Please note how very large the organ of Destruction, and how rapidly the head widens out as it comes down to the posterior termini of its zygomatic arches. All must see how perfectly its character corresponds with its Phrenology.

CUNNING LARGE AND DESTRUCTION LESS.



No. 35.—FOX, SIDE VIEW.



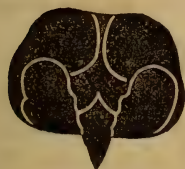
No. 36.—ICHNEUMON, SIDE VIEW.



No. 37.—BACK VIEW.

FOX AND ICHNEUMON, engravings Nos. 35, 36, and 37, furnish illustrations equally pertinent of Destruction and Cunning.

DESTRUCTION LARGE.



No. 38.—OWL.



No. 39.—HAWK.



No. 40.—HEN.



No. 41.—CROW.

DESTRUCTION SMALL.

OWLS, HAWKS, EAGLES, FALCONS, engravings Nos. 38 and 39, and all birds of prey, likewise possess immense Destruction and Secrecy in head and character. Behold how the breadth of

the heads of all destructive animals at Destruction, and then account for it, you who can, on any other hypothesis than the truth of phrenological science!

SHEEP, RABBITS, HENS, TURKEYS, and all non-destructive animals and fowls, or those preyed *upon*, lack both this destructive organ and Faculty. Let any and all use their own eyes upon any

DESTRUCTION SMALL.



No. 42.—SHEEP, TOP VIEW.



No. 43.—RABBIT, SIDE VIEW.

and all destructive and non-destructive animals and fowls, fish and reptiles included, and they will find Phrenology confirmed by the coincidence of each class, genera, species, and individual, with the principles of this science. We conclude with one other contrast, in illustration of this class of facts.

BULLDOG AND GREYHOUND furnish contrasted examples of Destruction large and moderate in both head and character. Every bulldog any reader ever sees is broad at the ears, its head widening rapidly at the posterior termini of the zygomatic arches, and accord-

DESTRUCTION LARGE.



No. 44.—BULLDOG.

DESTRUCTION MODERATE.



No. 45.—HOUND.

ingly is always ready for a fight, and will sometimes fight till he dies rather than give over, besides being always fierce and ferocious, that is, has prodigious Destruction in head and character; while all greyhounds are always narrow headed at the ears, that is, moderate in the phrenological *organ* of Destruction; and that they all lack this mental element, is evinced in their always doing up their fighting *with their heels*. And they never stay to see the death of the animal they may have caught, and rarely ever kill any themselves. Yet see how rapidly bull terriers despatch rat after rat, one every second or two, and with what destructive

gusto, not for food, but from pure *love of killing*, and behold how largely developed they are in this destructive region!

IN 1818 the Royal Institute of France offered a prize to the author of the best memoir on the anatomy of the brain, in the four classes of the vertebral animals. Attracted by this, Dr. Vimont, of Caen, commenced researches without reference to Phrenology; indeed, he had not read Gall, and had only heard of him as a charlatan. However, as Gall had written upon the subject of his researches, he thought it incumbent on him to read his work among others. "Hardly," says he, "had I begun to read it, when I found that I had to do with one of those extraordinary men, whom dark envy endeavors to exclude from the rank to which their genius calls them, and against whom it employs the arms of the coward and the hypocrite. High cerebral capacity, profound penetration, good sense, varied information, were the qualities which struck me as distinguishing Gall. The indifference which I first felt for his writings, soon gave way to the most profound veneration."—*Introduction*, p. 14.

Vimont commenced investigations into the Phrenology of brutes, and continued them with extraordinary perseverance. In 1827 he presented to the institute a memoir, containing a fragment of the researches on which he had spent so many years, together with two thousand five hundred heads of brutes of various classes, orders, genera, and species. Among these, fifteen hundred had belonged to brutes, with whose habits he had been individually well acquainted before they died or were killed. He presented four hundred wax representations of the brain, modelled after Nature, and an atlas of more than three hundred figures of the brain and cranium, having expended upwards of twelve thousand francs in procuring specimens. The work in which he now sets forth his observations is illustrated by an atlas of one hundred and twenty plates, containing *six hundred figures*. I have seen an inferior edition published at Brussels, but not the work itself. The plates are said to be exquisite, and to surpass, in accuracy of dimensions, anything before attempted in anatomy. Dr. Elliotson remarks, that "if the immense mass of proofs of Phrenology from the human head, and the facts pointed out by Gall, in brutes, are not sufficient to convince the most prejudiced, the additional multitude amassed by Dr. Vimont will overwhelm them."

WHAT MEAN all these great *ranges* of phrenological coincidences of heads with characters? That the *natural law* of Phrenology runs throughout and governs them all; that it expresses an *ordinance of Nature*; that it constitutes a part and parcel of this entire order of *things*; that the All-wise Maker of the universe has chosen this *organic science* as His *modus operandi* of making what He has made; that, in short, Phrenology is one of the actual, tangible, veritable *natural sciences*, ramified throughout all Nature, and interwoven into all the creatures of God's formative hand!

UNIFORMITY presupposes law, and law creates science. These phrenological phenomena are *uniform*. The Author boldly avers that, after having inspected animals, birds, reptiles, &c., by scores of thousands, he has yet to see *the very first* variation from these phrenological conditions. The whole world in general, and opponents of Phrenology in particular, are hereby challenged, generally and individually, to produce one single exception, throughout the entire animal and human kingdoms, to this science. None can be adduced, because none exist.

OBJECTORS, come, answer these specific ranges of facts, or else admit the resultant inference that *Phrenology is true*.

43. — PATHOLOGICAL FACTS ESTABLISH PHRENOLOGY.

STUBBORN FACTS of still another class, yet somewhat analogous, re-attest the truth of this science; namely, injuries and inflammations of specific phrenological *organs*, and the resultant similar affections of their Faculties. Though the Author has seen them literally by thousands, throughout his forty years of practice, yet he gives but a few, merely as samples of all.

LESION OF MEMORY OF PROPER NAMES A PART OF THE ORGAN OF EXPRESSION. — Whilst lecturing and practising Phrenology in the city of New York, December 27, 1836, Dr. Howard, who then lived in Carmine Street, stated that the evening before he had been called in great haste to visit a lady who was taken with a most violent pain in her head, which was so severe as in fifteen minutes entirely to prostrate her, producing fainting. When brought to, she had forgotten the names of every person and thing around her, and almost entirely lost the use of words, not

because she could not articulate them, but because she could not *remember* or *think* of them. She could not mention the name of her own husband or children, or any article she wanted, nor convey her ideas by words, yet understood all that was said to her, and possessed every other kind of memory unimpaired. "And *where* was this pain located?" I eagerly inquired. "That is for *you* to say," said he. "If Phrenology is true, *you* ought to be able to tell *where* it is." "Then it is located *over her eyes*," said I. He replied, "That is the place." The pain was seated there only. In other words, her phrenological *organ* of Expression had become greatly diseased, and this *Faculty* was the *only* mental power that suffered injury, all the others remaining unimpaired.

AFFECTION OF LANGUAGE. — While practising Phrenology in Brattleborough, Vt., in 1834, a lady called upon the Author, stating that she labored under a great difficulty in expressing her ideas. He remarked that her organ of *Language* was large, and asked if it had *always* been so. She replied that, until she had an inflammation of the brain, which was particularly severe about the *eyes* (above which this organ is located), causing excruciating pain in those parts, she could talk with fluency, but since that time she often hesitated for words in which to express the most commonplace ideas. This organ of Expression, being situated upon the super-orbiter plate, its inflammation might easily be mistaken for an inflammation of the eyes.

INFLAMED PERCEPTIVES IN AN ATTORNEY-GENERAL. — To a lawyer, attorney-general of one of the New England States, examined professionally, observing an unusual and feverish heat in his forehead, and particularly in the organs of the perceptive faculties, I said, "Sir, the brain in your forehead is highly inflamed; you have been studying or thinking too hard, or doing too much business of some kind, and if you do not stop soon, you will be either a dead man or a crazy one." He started upon his feet as if electrified, exclaiming, "Who has been telling you about me?" "No one, sir." "But some one *has* been telling you." "Upon my honor and my conscience, sir, I neither know you nor your occupation, nor condition in life, nor one single thing about you, except what I infer from your phrenological developments," said

I, pointing out to him the preternatural heat of his forehead. He requested me to proceed, and at the close of the examination stated that for several weeks he had been dreadfully afflicted with the most violent and intolerable pain in his forehead, particularly its lower portion, and on that account had requested my attendance; that his memory, which up to that time had been remarkably retentive, had failed him, and his intellectual Faculties also sustained much injury; and that all this was brought on at a session of the court in which his intellectual powers were employed to their utmost stretch of exertion for several days and nights in succession, upon very heavy cases, both for the state and for individuals. He was sixty years of age, had a powerful constitution, a most active Temperament, and very large perceptive Faculties, which the inflammation had rendered redder than the other portions of his forehead

CONGESTED PERCEPTIVES. — J. H. Harris, of Easton, Maryland, said he now believed in Phrenology, because he had *experienced* its truth. He said that at one time, whilst extensively engaged in superintending a great amount and variety of business, including building, he was repeatedly seized with a most intense pain over his eyes, which was so powerful, that to obtain relief he would have held his head still to have had it bored into; and that, whenever this pain seized him, he forgot everything, and would drop the sentence he was speaking, unable to think of a single word or thing until the paroxysm abated.

AN INFLAMED FOREHEAD, WITH LOVE OF STUDY. — A Mr. C., of Boston, is subject to spells of violent pain in his forehead, and there only, — the seat of the intellectual organs, — which is accompanied with an irrepressible desire to read, think, study, write, &c. He often sits up whole nights indulging this intellectual mania. Nothing but sleep will relieve him, yet he is unwilling to seek rest because of the delight experienced in this exercise of mind, even though fully aware that he thereby aggravates the disease.

A HOT FOREHEAD IN A DISABLED STUDENT. — At Carlisle, in June, 1837, I pointed out this same preternatural heat in the forehead of a student, who, entering his class poorly prepared, had overdone his intellectual organs. He had been compelled to

suspend his studies on account of the pain in his forehead, and the morbid action of his intellectual powers.

PARALYZED EVENTUALITY. — In April, 1837, Dr. Carpenter, of Pottsville, Pa., related to the writer the following: One of his patients fell from a horse, striking the centre of his forehead against the corner of a rock, on which portions of brain were found. I have seen the scar, and know that *Eventuality* was the precise organ injured. As Dr. C. entered the room, the patient recognized him, as he did each of his neighbors, but he had forgotten every *fact* and *event*, and them *only*. He asked what was the matter, and as soon as he was told, forgot, and asked again. To use Dr. C.'s expression, "Fifty times over he asked what was the matter, and as soon as he was told, forgot, and asked again." He forgot that his brother was coming that day from a distance to visit him, and that he was then on his way to meet him. Every event was to him as though it was not; yet all his other mental powers remained unimpaired. When depletion was proposed, he objected, and assigned his reasons, showing that his reasoning Faculties were uninjured. After the brain had been re-supplied, he recovered, to a considerable extent, his memory of facts. This accident made him a believer in Phrenology.

INJURY TO EVENTUALITY. — Dr. Ramsey, of Bloomfield, Columbia County, Pa., reported the following case as having occurred in his practice: About four years since, a patient, by his horses becoming frightened, was driven with great violence against a fence, the centre of his forehead striking against the corner of a rail. He recognized the doctor as he entered, and asked him what all this fuss was about. As soon as Dr. R. had told him, he forgot, and asked again and again, for twenty times in succession, and to this day he has not the slightest recollection of this most important event of his life, except the mere fact that the horses were frightened.

MEMORY OF FACTS DESTROYED IN HEAD AND INTELLECT. — Another case analogous to this, and affecting Eventuality, was narrated to the Author by the Rev. S. G. Callahan, an Episcopal clergyman, and teacher of high intellectual and moral standing, in Laurel, Del. About the year 1828, he was intimately acquainted with a Dr. Thomas Freeman, surgeon on board an English man of war, who, in an action with the Dutch, received a blow from a rope with a

knot in it, which broke in the skull in the centre of his forehead. "Here," said he, putting his finger upon the organ of Eventuality, "producing a cavity resembling the inside of a section of the larger end of a hen's egg." The accident caused a loss of *memory of facts only*, which caused his dismissal on half pay for life, whilst every other power remained unimpaired. Thus, if he went for wood, he was as likely to get anything else, or nothing at all, as what he went for. Being employed to construct a vat for coloring broadcloths, he constructed every thing right, his Causality and Construction remaining uninjured; but when he came to the chemical process of dyeing, with which he was as familiar as with his alphabet, he failed repeatedly, till they were compelled to employ another dyer, who pointed out the omissions which caused his failures. Although the doctor was an excellent chemist, and understood every part of the operation, yet he would omit one thing in one experiment, and another in another, and thus spoil every attempt. He could seldom succeed in chemical experiments, though passionately fond of them, because of these omissions; and yet, start him on a train of thought, and he reasoned as clearly, and logically, and powerfully as any one. Now observe, that the only *organ* injured was Eventuality, and this was the only *Faculty* impaired.

MEMORY OF FACTS, AND ITS ORGAN, IMPAIRED. — Robert Macfarland, a tavern-keeper, who, in 1837, lived in Carlisle, Pa., south of the court-house, in consequence of a fall when about sixteen years old, had a deposition of watery matter which finally settled in the centre of his forehead, forming a sack between the skull and skin, which remained there several years, until it became very painful, at last intolerably so, compelling him to have the sack removed, and the decayed portion of the skull on which it had formed scraped twice a day for twenty days in succession, by which the disease was arrested. Before his fall, his memory of circumstances, what he read, saw, &c., was so excellent, that he was often referred to. This kind of memory, and this *only*, was destroyed by the disease. On this account, he called on me for an examination, but did not state his object, waiting to see if I would detect it. On examining his forehead, I told him that his memory of faces was among the best that I had ever seen, but that I observed a scar in the centre of his forehead, where this

organ is located, and that if the wound which caused it affected the *brain* there, his memory of incidents, every-day occurrences, what he read, saw, and heard, had been impaired. "That's a fact," said he. "If I see a man who called on me ten years ago, I know him instantly; but if a customer wants anything, and another calls for something else before I have waited on the first, I forget the first, and thus often give offence: but I can't help it. And it's of no use for me to read anything; I forget it immediately."

The intense pain caused by the dropsical deposit shows an affection, long-continued and severe, of the brain beneath it, and the location of the scar fixes it on Eventuality, which was the only *Faculty* impaired.

MR. CAMP, of New Haven, Conn., by the bursting of a gun, had the end of its barrel driven an inch or more into his organ of Eventuality, scattering the brain upon the stone wall against which he was leaning. By this accident, his memory of facts was so much impaired, that lawyer Stoddard said he was frequently compelled to suspend or give up his suits. I have often seen the scar, and also been a witness to his miserably defective memory of facts, appointments, &c.

ALEXANDER DALBY, potter, Wilmington, Del., is another example of the injury of this organ and Faculty, caused by falling from a horse, and striking his forehead upon a stone; and Dr. D., of Milton, Pa., furnishes another.

HOT FOREHEADS will almost always be found in editors, lawyers, and teachers of eminence. Of those only who overwork their intellects, daily and incessantly, is this true; but the concomitance of hot foreheads with incessant intellectual effort is uniform and absolute, and true of all others who overwork their intellectual Faculties.

WEARING A WET TOWEL NIGHTS, on all hot foreheads, will both relieve this pain, and enable such to perform *double* the intellectual labor they could otherwise endure; thus doubly confirming the phrenological doctrine that brain in the forehead manifests intellect, first, in that severe and protracted intellectual effort congests the forehead, and next, that reducing the intellectual inflammation by wet towels enables the patient to redouble his intellectual labors with impunity.

"A MOTHER, in a state of delirious anxiety and alarm about the supposed murder of her children, when asked, after her recovery, what her sensations were during her paroxysm, applied her hand to Parental Love, saying she was conscious of nothing but a severe pain in that part of her head. She was ignorant of Phrenology, so that her statement was unbiassed."—*Geo. Combe*.

"A MECHANIC, confined in the Bicetre, experiences at regular intervals a burning heat in his abdomen, with intense thirst. The heat gradually extends to the breast, neck, and face. On reaching the temples, it becomes still greater, and is accompanied with very strong and frequent pulsations in the temporal arteries, which seem as if about to burst. Finally the nervous affection arrives at his brain. The patient is then seized with an irresistible propensity to shed blood; and if a sharp instrument is within his reach, he is apt to sacrifice to his fury the first person he chances to meet."—*Pinel*.

"ANOTHER PATIENT, remarkably mild during his lucid intervals, on the return of his insane paroxysm, *particularly when marked by redness in the face, excessive heat in the head*, and intense thirst, experiences the most violent inclination to provoke those who approach him, and to fight them furiously."—*Ibid*.

AFFECTIONS OF THE ORGAN AND FACULTY OF TUNE.—Dr. Miller, of Washington, reports the following, in Vol. I., p. 24, of the American Phrenological Journal: A lad was kicked by a horse, "the point of the shoe striking him under the left superciliary ridge, outer angle, fracturing the orbiter plate, and forcing the spicula of bone upwards and outwards on the dura mater, which was wounded by them." As the wound was three fourths of an inch deep, and penetrated the head in the direction of Tune, reaching the borders of that organ, but not penetrating it, it would of course highly inflame it, which would produce a disposition to sing. This result followed. When the boy came to, he began to sing, and sang most when the wound was most inflamed. Both before and after this occurrence he had never been known to sing, but now, lying apparently at the point of death, he would break out singing songs, and, to use his mother's expression, "did nothing but sing." On account of his singing propensity, Dr. M. sent for Dr. Sewall, the anti-phrenologist, and Dr. Lovell, then President of the Washington Phrenological Society, who reminded Dr. S. that this case went to prove Phrenology, and yet (p. 57 of Dr. S.'s attack on Phrenology) he says no cases analogous to the above have ever been known to occur. His memory of *such* facts must be rather short.

A SIMILAR case occurred at Young's Factory, on the Brandy-

wine, five miles above Wilmington, Del., and was reported by Dr. Jacques, of W., attending physician. An Irishman, named Robert Hunter, having charged a rock with a blast, which did not ignite, swore he would *make* her go off, at the same time jamming his iron crowbar down among the powder. It struck fire and blew up, but did not split the rock. The crowbar was sent no one knows where, both hands were torn off, and the charge, coming up in a body, struck his head along the superciliary ridge, cutting a furrow in the skull, and carrying away portions of the dura mater and brain. It took its course along the borders of *Tune*, but did not disorganize it. From his friends, Mr. and Mrs. White, at whose house he boarded and died, I learned its precise location, viz., *along the superciliary ridge*, externally. It also carried away a portion of the super-orbiter plate, and terminated near *Mirthfulness*.

HE FELL TO SINGING SONGS in fifteen minutes after he was taken to the house, and continued singing, almost without interruption, till his death, which occurred nine days after. I took down from the lips of Mrs. W. the following description of his singing propensity: "He sung the whole time after he was blown up till he died. He did not stop one hour, put it all together. Mr. W. began to read the Bible to him, but he broke out singing, and stopped him. I thought this very strange. It was not a quarter of an hour after he was brought in before he began to sing. He sung all the time till he died, and stopped only when some one went in to see him, and then began again directly. His principal song was 'Erin go bragh,' and he sung it with a better tune than I ever heard it sung before or since. It beat all how musical his voice was. He sung very loud, and seemed to take a great deal of pleasure in it." Dr. Jacques observed that what struck him most forcibly was to hear him sing with so much feeling, pathos, and ecstasy when nearly dead. Several others bore their testimony to the same point.

G. COMBE, p. 416 of his large work, describes a similar case, and the American Phrenological Journal, Vol. I., p. 243, still another, and Gall and Spurzheim many others.

A LITTLE GIRL, of Washington, D. C., received a fracture of the skull in the region in which the organ of *Tune* is located. Whilst confined with this wound, which had become irritated, she ex-

perienced, what had never been manifested before, a strong and involuntary propensity to *sing*. Thus the phenomena of music was produced by what, under ordinary circumstances, we should expect to prevent it, viz., a *wound*; and the only solution of the case seems entirely to turn upon the fact, that the inflammation was connected with the phrenological organ of *Tune*. This case was stated to the author in 1835 by Dr. Miller, at the house, and in the presence of, Dr. Sewall, the anti-phrenologist.

A YOUNG LADY, of Edinburgh, Scotland, as reported by A. Combe, in the Edinburgh Phrenological Journal, subject to hysteria, whose head ached constantly, felt for days an acute pain at the external angles of her forehead, just where *Tune* is located, which was large; was at length seized with a spasmodic affection of the throat, during which she uttered a quick, short, musical sound rapidly, so that she could talk only with difficulty, meanwhile remarking that it was becoming rather musical. That night she dreamed of *hearing the finest music*. The next night her musical dreams harassed her, during which she thought she *heard and performed* the most beautiful airs with surpassing musical ecstasy. On awaking, she said she could almost *note down* one piece which had particularly pleased her.

HER *TUNE* could no longer be controlled. Her craving for music became a resistless *passion*. She insisted on getting up and playing and singing with all her might; but when this was denied her, she finally seized a guitar, and gave way to this musical torrent with astonishing clearness, volume, and strength of voice, as well as of musical pathos, till this Faculty, becoming exhausted, finally subsided. Her intense cerebral pain was felt only at the *organ* of Music, and this Faculty alone was preternaturally excited.

CONSCIENCE INFLAMED, IN HEAD AND CHARACTER.—In 1834 the Author examined the head of a lady who was deranged in the matter of Conscience, but perfectly sane in every other respect. He found this organ large and much heated, or much warmer than any other portion of the head. At the request of the Author, other persons present, who were disbelievers in Phrenology, applied their hands to her head, and very readily perceived, and bore testimony to the fact.

THE AUTHOR saw a man in Hatfield, Mass., who possessed good

talents, but who is deranged in the matter of love, while he is sane in other respects. He is often complaining of a compressed sensation, and of a buzzing sound, exactly in that portion of the head in which the organ of Friendship is located. Many other cases in which the individuals were rational, but whose attachments had been interrupted, have fallen under the Author's observation, and in all of which they complained of a soreness in the same place. In one of these instances the individual was unable to rest the back part of the head upon a pillow, and suffered so much from the presence of pain as to call in a physician; meanwhile the mental suffering, caused by the absence of the object of attachment, was almost insupportable.

DIANA WATERS, an engraving of whose skull will be found under Devotion, wandered up and down the streets of Philadelphia a religious mendicant, going perpetually from store to store, and one family to another, everywhere exhorting all to religious fear and worship, and insisting, no matter how pressing the business in hand, on praying in all the stores and families she visited; and her skull, which the Author owned many years, but lost in his travels on the west branch of the Susquehanna River, Pa., on being opened, was found to have on its inside, right over the organ of Devotion, a white, chalk-colored spot, about the size of a silver dollar, in the very apex of her skull, precisely where Devotion is located, looking as if just that spot had been subject to fire, or just like burnt bone, while all the balance of the inside of her skull was normal.

THE ORGAN of Devotion in her was thus both very large, and long inflamed, and its Faculty was preternaturally excited for a long series of years.

CAUTION was also very large, and her religious mania took on the form of *fear and dread* of the Almighty.

CASES BY HUNDREDS, in which fear of death by shipwreck, or foul means, or accident, continued for a few hours, have turned the hair gray over Caution, while the hair in all other parts retained its natural color.

DESTRUCTION furnishes many like cases of concomitant inflammation of this organ and Faculty. Let the following serve as illustrations. While visiting the Philadelphia Almshouse in 1838, in company with Alderman Keyser, one of its board of managers,

M. B. Sampson, an English gentleman then making observations in this country, and others. Among other cases of interest was the following:—

A RAGING MANIAC, confined in a strait-jacket because dangerous out of it, was hallooing, as we entered, with all her might, "Mr. Keizer! put a dozen Spanish leeches over each ear;" which she kept on reiterating.

"WHAT IS THE MATTER with your ears?"

"O, MY HEAD, my head!"

"WHICH PART of your head is it that pains you? This part?"

"No, not there, but *between my ears*," answered the raging maniac. "Put a dozen Spanish leeches over each ear! put a dozen Spanish leeches over each ear!" she kept on yelling at the top of her voice.

As I pressed my fingers upon Destruction, which was very large and *very hot*, yet nowhere else, as I showed to those present, she exclaimed, —

"TAKE CARE: you hurt me!"

Hoping to get relief, she allowed me to examine her head; but whenever my fingers touched Destruction, she would exclaim, —

"O, THERE IT IS, right there! Take care: you hurt me! you hurt me!"

Yet, when the other parts of her head were touched, she would say, "Not there; not there."

She called for water, which was brought her by a colored girl, towards whom she showed the utmost of rage, tried to spit in her face, — her hands being confined, — and heaped upon her and the superintendent every opprobrious epithet her demoniacal fury could name. Her yell was perpetual before and after we entered her cell, and that of infuriated Destruction, mingled with the bitterest curses and most vindictive threats.

THIS EXTREME HEAT AND PAIN at the precise location of Destruction, but *nowhere* else, and the fierce, wild ragings of this *Faculty*, but no other, enforces the inference that this destructive *organ* and *Faculty* were inflamed together, and in perfect reciprocal sympathy with each other.

M. B. SAMPSON subsequently furnished to the American Phrenological Journal the following verbatim copy of this incident from his original note-book, in which he entered this record that same evening, March 16:—

"From one part of the long passage, screams of the most violent kind were incessantly uttered, proceeding from the cell of a woman then in a strait-jacket, who, an attendant declared, in a state of fury tore everything in pieces, even her food, the moment she could lay hands upon it. She was alone, fastened to her chair, foaming at the mouth, and uttering the wildest yells of frantic rage. Upon an examination of her head by Professor O. S. Fowler, to which, after being kindly addressed, she submitted, he found the organ of Destruction to be extremely large, and in such a state of feverish action that its increased temperature was distinctly perceived by us all. When asked what was the matter with her, she exclaimed that her head pained her terribly; that she wanted a dozen Spanish leeches put over each ear; that she heard something continually buzzing in her ears, and that she would bear it no longer; and again went into a fit of rage, stamping, swearing, and calling upon God. At first, while Professor Fowler was examining her head, she remained tolerably quiet; but when he placed his fingers on the organ of Destruction, she started as suddenly as if he had touched an open wound, exclaiming at the same instant, 'There — there — that's the place.' *You hurt me as you touch me.*" — *American Phrenological Journal*, Vol. I., p. 155.

AMATIVENESS furnishes an almost unlimited number of illustrations of both the inflammation and destruction of this organ and Faculty. In fact, it was *discovered* by preternatural heat and pain in the cerebellum, along with its excessive or passional cravings in a nymphomaniac young widow.

"'It is impossible,' says Spurzheim, 'to unite a greater number of proofs in demonstration of any natural truth than may be presented to determine the function of the cerebellum;'" and in this, I agree with him. Those who have not read Gall's section on this organ can form no adequate conception of the force of the evidence which he has collected." — *Combe's Phrenology*.

SEE A. Boardman's Defence of Phrenology, which details some of this class of facts.

CLOSE OBSERVATION upon his own brain will convince any sensitive person, capable of intense mental action, that Phrenology is true, in this fact, that whoever experiences any sudden and powerful excitement of any phrenological Faculty, can feel at that instant a crawling sensation in the *organ* whose Faculty has been thus excited. For example: right after experiencing intense indignation, resistance, or anger, he will experience a creeping sensation well nigh or quite painful at Force, located just behind the ears.¹⁷⁰ Especially after any protracted and intense exercise of a purely intellectual nature will he feel this conscious

working, action, heat, even burning, in his intellectual lobe, and in that particular *part* of it where the organs most exercised are located. This test is submitted to all personal inquirers after organic truth.

PATHOLOGICAL FACTS might easily be cited from all phrenological authors — Gall, Spurzheim, both the Combes, and others; but introducing these facts as *samples* of their class, we proceed to another analogous range of facts, also easily verified by all, namely:—

44.—MAGNETIZING THE PHRENOLOGICAL ORGANS, AND THEIR NATURAL LANGUAGE.

THE TRUTH of what is commonly called Animal Magnetism is placed beyond a doubt by experiments which all can make, or have made, on themselves; for those who cannot magnetize can generally be magnetized, and many are capable of both. The Author has practised this art more or less since 1836, though less of late years, because he required all his strength in his profession. By this means he has cured aches and pains without number, and been cured of them; has cured various diseases, and shown others how to cure them, and effected results astonishing in themselves, and otherwise unaccountable. See its application to the cure of diseases hereafter. Here is a most benevolent provision, by properly applying which one person can generally mitigate, if not obviate, the pains and diseases of others *ad libitum*, besides often inducing a clairvoyant or second-sight state. But our present purpose is rather to state the *fact* that animal magnetism is founded in truth, than to expound or apply it. All should learn how to make its passes, if only thereby to benefit others, as occasion may require, and try very curious and most interesting experiments.

BETWEEN 1836 AND 1844 the Author gave frequent exhibitions, in public and private, of magnetizing the phrenological organs of patients already under magnetic influence, by applying his fingers to one and then another of these organs; and in every *single* instance the *Faculty* thus magnetized leaped instantly into an activity and power of manifestation wholly impossible in the normal state, and expressive of its function far beyond anything he ever saw in real life.

EXAMPLES : he never touched Devotion but the patient clasped hands, and manifested the most devout adoration of God in tone, natural language, words, and every other indication of worship. He never touched Kindness but the subject gave away all he could get to give, besides manifesting sympathy in every other way possible. Touching Force always "raised a row," while touching Caution produced a paralysis of fear, which touching Hope instantly dispelled, and induced the utmost cheerfulness and expectation. Touching Parental Love made the patient extemporize an imaginary baby, which he would fall to fondling and kissing with real gusto, while touching Mirth brought shouts of laughter.

THE AUTHOR AVERS that he has repeated these experiments ten thousand times, and under all conceivable changes of programme, without finding one variation between the phrenological organs touched and their Faculties. He has tried to deceive the patient by pretending to touch one organ while he, in reality, touched another; but in all such cases the *right*, not the pretended, responses came. In this matter he was not, could not be, deceived; nor could he deceive. When he said, "I shall now touch Force; look out for a fight;" yet if he really touched Caution, he found fear to result, not fight; but if he said, "I will produce cheerfulness by touching Hope," but touched Conscience, the manifestation was compunction, not fairy castles. In saying all this he knows right well just *what* he says, and that all others who make like experiments will find Phrenology carried out with a clearness and force which must be *seen* to be fully appreciated. The evidence thus furnished not only that Phrenology is true, but that each individual organ is rightly *located*, is absolutely irresistible.

THE NATURAL LANGUAGE of the Faculties furnishes another irrefutable proof of the truth of Phrenology. Its doctrine is, that whenever any Faculty becomes intensely active, it throws the head and body into a line with the *organ* whose *Faculty* is thus exercised — that intellectual activity, as in speaking, moves the forehead backward and forward, in a line with the intellectual lobe that perceptive activity throws the lower, and reflective the upper, portion of the forehead forward; that Kindness bends the body and head forward towards the one commiserated, while Devotion brings it still farther forward; that Firmness renders one "straight up and down," while Dignity carries the head up-

ward and backward, &c. Yet as we shall generally give this natural language of each Faculty under its analysis, we refer this argument to each Faculty as expounded throughout this work. We shall often illustrate this point by diagrams.

45. — ALL SHAPE INDICATES CHARACTER.

ONE FORM of head, according to Phrenology, signifies one talent or trait of character, and other forms other traits, throughout all the forms of head and traits of character.³² That is, its special doctrine is that one shape of head signifies a large, fair, or small *organ* of this Faculty or that, and of course this resultant trait of character, or specialty of talent; while that form of head signifies that such and such organs are large or small, and their special mental capacities and characteristics are correspondingly vigorous or dormant.

IS THIS IMPROBABLE? Does it contravene any known law of Nature? Instead, is it not in perfect *harmony* with that *first* law of Nature that *shape indicates character*; that Nature invariably unites certain forms with certain characteristics? Thus lion form always accompanies lion character, deer form deer character, swine form swine character, and so on throughout every single animal, fowl, fish, reptile, insect, and creeping thing, and vegetable production whatsoever. Who ever has seen, ever will see, one single exception to this universal fact, throughout all Nature's works!

BULLDOG AND GREYHOUND, though both have general canine shape and character, have nevertheless each their *special* shapes and characteristics. Thus, who ever has seen, or ever will see, bulldog shape without also finding special bulldog traits of character, or greyhound configuration separate from greyhound instincts, or the instincts of either except in *conjunction* with its specialty of shape? All meats are flavored in accordance with this law. Mutton and beef, pork, fish, and fowl, flavors of meat always accompany its own corresponding form of animal, fish, and fowl, never any other. How is this? Does Nature ever vary from these fixed facts? that is, given forms of animals accompanying specific flavors of their flesh?

ALL FRUITS, vegetables, and whatever grows, conform to this general arrangement. Not only have all apples the special apple shape and flavor, potatoes potato shape, pears pear shape, and

each nut, tree, and even leaf, its own characteristic shape and quality; but this flavored apple, &c., always has this shape, and that that. Seckle pears always have one pear shape and flavor, and Bartlett pears a shape and flavor entirely different; while this flavored nut always has this shape and that that. By means of this arrangement we can always predicate the special instincts of this animal and that, the fruit of this tree and that, and this everything and that. As well argue that sun gives light, as argue a fact and principle thus necessary and universal, throughout all that grows and is.

EVERY BONE, even, of every man and animal, fish and fowl included, tells us to what genera and species its possessor belonged, and thereby what were its general and specific characteristics, even its size, the flavor of its meat, and all about it; while every leaf and all that grows tells all about the tree on which it grows and its fruit. Every spear of grass, every wing of everything that flies, every iota of shape appertaining to everything whatsoever, proclaims all the specialties of its possessor.

SHALL ALL shape, therefore, proclaim character; shall the form of every bone in everything which has bones, tell us all about all the special mental, as well as physical, instincts of its possessor; and shall not likewise, in accord with this identical great natural law, the form of the *human head* throughout its every iota, disclose the special characteristics of its possessor! Shall universal configuration proclaim universal mental specialties, and shall not every form of head, actual and possible, reveal its mental specialties of its possessor! By what law does shape in general proclaim character in general, and not *every minutia* of shape accompany its own trait of mind? This inference is absolute, universal, demonstrable. Nothing in Nature is any more so.

WHO WILL DENY either this principle itself, or its specific application to Phrenology? Both are impregnable. This inference is absolute that *every* rise, depression, and shape on every and all heads, must needs signify its own particular talent or proclivity of mind. The only possible question for doubt or cavil is whether Gall and his followers have correctly *observed* just *what* shapes and mental peculiarities go together—whether each organ as declared by this science really does or does not signify the special trait assigned to it. That each shape signifies something is certain.

ALL HEADS, like all faces, differ from all others in shapes. As every face differs from every other in form, though all are made up of the same identical features of nose, mouth, lips, teeth, chin, eyes, ears, brows, foreheads, cheeks, &c., because the *form* of each feature in each differs from the form of a like feature in all others, — the varying form of each feature causing this vast diversity of countenances seen among men, — so all have foreheads, yet the form of every forehead differs from that of all the others. And as these different countenances indicate different mentalities, of course different foreheads, of which these countenances are in part composed, indicate each a different, and its own, specific mental specialty. These different forms of face *mean* something — mean different mentalities, as do of course those different shapes of foreheads and heads of which they are composed. These differences in shape are *consequential*, not incidental.

WHAT SHAPES SIGNIFY WHAT TRAITS, then, is the only remaining question, which we propose in due time to answer.

46. — PHRENOLOGY IS PROVED BY THE HISTORY OF ITS DISCOVERY.

OBSERVATION AND INDUCTION alone discovered every organ and Faculty thus far propounded. Neither mere theory, nor abstract reasoning, had any “part or lot” in any one of them. Unlike Brown and Stuart, who theorized abstractly upon the workings of their *own* minds, Gall *observed* the first, second, and all the other coincidences between each organic development and its mental gift. George Combe gives the following general history of the discovery of Phrenology. We shall give that of each organ and Faculty in their order throughout the work.

“DR. FRANCIS JOSEPH GALL, a physician of Vienna, afterwards resident in Paris,* was the founder of the system. From an early age he was given to observation, and was struck with the fact, that each of his brothers and sisters, companions in play, and schoolfellows, was distinguished from other individuals by some peculiarity of talent or disposition. Some of his schoolmates were characterized by the beauty of their penmanship, some by their success in arithmetic, and others by their talent for acquiring a knowledge of natural history or languages. The compositions of one were remarkable for elegance; the style of another

* Born at Tiefenbrunn, near Pforzheim, in Suabia, on 9th of March, 1757; died at Paris, 22d of August, 1826.

was stiff and dry; while a third connected his reasonings in the closest manner, and clothed his argument in the most forcible language. Their dispositions were equally different; and this diversity appeared also to determine the direction of their partialities and aversions. Not a few of them manifested a capacity for employments which they were not taught; they cut figures on wood, or delineated them on paper; some devoted their leisure to painting, or the culture of a garden; while their comrades abandoned themselves to noisy games, or traversed the woods to gather flowers, seek for bird-nests, or catch butterflies. In this manner, each individual presented a character peculiar to himself; and Gall observed, that the individual who in one year had displayed selfish or knavish dispositions, never became in the next a good and faithful friend.

"The scholars with whom Gall had the greatest difficulty in competing, were those who learned by heart with great facility; and such individuals frequently gained from him by their repetitions, the places which he had obtained by the merit of his original compositions.

"Some years afterwards, having changed his place of residence, he still met individuals endowed with an equally great talent for learning to repeat. He then observed that his schoolfellows so gifted possessed prominent eyes, and recollected that his rivals in the first school had been distinguished by the same peculiarity. When he entered the University he directed his attention, from the first, to the students whose eyes were of this description, and found that they all excelled in getting rapidly by heart, and giving correct recitations, although many of them were by no means distinguished in point of general talent. This fact was recognized also by the other students in the classes; and although the connection between talent and external sign was not at this time established upon such complete evidence as is requisite for a philosophical conclusion, Gall could not believe that the coincidence of the two circumstances was entirely accidental. From this period, therefore, he suspected that they stood in an important relation to each other. After much reflection, he conceived that if memory for words was indicated by an external sign, the same might be the case with the other intellectual powers; and thereafter, all individuals distinguished by any remarkable faculty became the objects of his attention. By degrees he conceived himself to have found external characteristics which indicated a decided disposition for painting, music, and the mechanical arts. He became acquainted also with some individuals remarkable for the determination of their character, and he observed a particular part of their heads to be very largely developed: this fact first suggested to him the idea of looking to the head for signs of the dispositions or affective powers. But in making these observations, he never conceived for a moment that the skull was the cause of the different talents, as has been erroneously represented: from the first, he referred the influence, whatever it was, to the brain.

"In following out, by observations, the principle which accident had thus suggested, he for some time encountered difficulties of the greatest magnitude. Hitherto he had been altogether ignorant of the opinions of physiologists touching the brain, and of metaphysicians respecting the mental faculties. He had simply observed Nature. When, how-

ever, he began to enlarge his knowledge of books, he found the most extraordinary conflict of opinions everywhere prevailing; and this, for the moment, made him hesitate about the correctness of his own observations. He found that the affections and passions had, by almost general consent, been consigned to the thoracic and abdominal viscera; and that, while Pythagoras, Aristotle, Plato, Galen, Haller, and some other physiologists, placed the sentient soul or intellectual faculties in the brain, Van Helmont placed it in the stomach, Descartes and his followers in the pineal gland, and Drelincourt and others in the cerebellum.

“He found also that a great number of philosophers and physiologists asserted that all men are born with equal mental faculties; and that the differences observable among them are owing either to education or to the accidental circumstances in which they are placed. If differences were accidental, he inferred, there could be no natural signs of predominating faculties; and consequently the project of learning, by observation, to distinguish the functions of the different portions of the brain, must be hopeless. This difficulty he combated by the reflection, that his brothers, sisters, and schoolfellows had all received very nearly the same education, but that he had still observed each of them unfolding a distinct character, over which circumstances appeared to exert only a limited control; and farther, that not unfrequently those whose education had been conducted with the greatest care, and on whom the labors of teachers had been most assiduously bestowed, remained far behind their companions in attainments. ‘Often,’ says he, ‘we were accused of want of will, or deficiency of zeal; but many of us could not, even with the most ardent desire, followed out by the most obstinate efforts, attain, in some pursuits, even to mediocrity; while in some other points, some of us surpassed our schoolfellows without an effort, and almost, it might be said, without perceiving it ourselves. But, in point of fact, our masters did not appear to attach much faith to the system which taught equality of mental faculties; for they thought themselves entitled to exact more from one scholar, and less from another. They spoke frequently of natural gifts, or of the gifts of God, and consoled their pupils in the words of the Gospel, by assuring them that each would be required to render an account only in proportion to the gifts which he had received.’* ”

“Being convinced by these facts that there is a natural and constitutional diversity of talents and dispositions, he encountered in books still another obstacle to his success in determining the external signs of the mental powers. He found that, instead of faculties for languages, drawing, music, distinguishing places, and mechanical arts, corresponding to the different talents which he had observed in his schoolfellows, the metaphysicians spoke only of general powers, such as perception, conception, memory, imagination, and judgment; and when he endeavored to discover external signs in the head, corresponding to these general faculties, and to determine the correctness of the physiological doctrines taught by the authors already mentioned regarding the seat of the mind, he found perplexities without end, and difficulties insurmountable.

“Abandoning, therefore, every theory and preconceived opinion, Dr.

* Sur les Fonctions du Cerveau, Preface; and tom. v. p. 12.

Gall gave himself up entirely to the observation of Nature. Being a friend of Dr. Nord, physician to a lunatic asylum in Vienna, he had opportunities, of which he availed himself, of making observations on the insane. He visited prisons, and resorted to schools; he was introduced to the courts of princes, to colleges, and to seats of justice; and wherever he heard of an individual distinguished in any particular way, either by remarkable endowment or deficiency, he observed and studied the development of his head. In this manner, by an almost imperceptible induction, he at last conceived himself warranted in believing that particular mental powers are indicated by particular configurations of the head.

"Hitherto he had resorted only to physiognomical indications, as a means of discovering the functions of the brain. On reflection, however, he was convinced that physiology is imperfect when separated from anatomy. Having observed a woman of fifty-four years of age, who had been afflicted with hydrocephalus from her youth, and who, with a body a little shrunk, possessed a mind as active and intelligent as that of other individuals of her class, Dr. Gall declared his conviction, that the structure of the brain must be different from what was generally conceived—a remark which Tulpus also had made, on observing a hydrocephalic patient who manifested the mental faculties. He therefore felt the necessity of making anatomical researches into the structure of the brain.

"In every instance where an individual whose head he had observed while alive happened to die, he requested permission to examine the brain, and frequently was allowed to do so; and he found, as a general fact, that, on removal of the skull, the brain, covered by the dura mater, presented a form corresponding to that which the skull had exhibited in life.

"The successive steps by which Dr. Gall proceeded in his discoveries, are particularly deserving of attention. He did not, as many have imagined, first dissect the brain, and pretend, by that means, to discover the seats of the mental powers; neither did he, as others have conceived, first map out the skull into various compartments, and assign a faculty to each, according as his imagination led him to conceive the place appropriate to the power. On the contrary, he first observed a concomitance between particular talents and dispositions, and particular forms of the head; he next ascertained, by removal of the skull, that the figure and size of the brain are indicated by external appearances; and it was only after these facts had been determined, that the brain was minutely dissected, and light thrown upon its structure.

"At Vienna, in 1796, Dr. Gall for the first time delivered lectures on his system.

"In 1800 Dr. JOHN GASPAR SPURZHEIM* began the study of Phrenology under him, having in that year assisted, for the first time, at one of his lectures. In 1804 he was associated with him in his labors; and, subsequently to that period, not only added many valuable discoveries to those of Dr. Gall, in the anatomy and physiology of the brain, but con-

* Born at Longuich, near Treves, on the Moselle, December 31, 1776; died at Boston, United States, on November 10, 1832.

tributed to form the truths brought to light by their respective observations, into a beautiful and interesting system of mental philosophy, and developed its moral applications. In Britain we are indebted chiefly to his personal exertions and printed works for a knowledge of the science.

"In the beginning of his inquiries, Dr. Gall neither did nor could foresee the results to which they would lead, or the relation which each successive fact, as it was discovered, would bear to the whole truths which time and experience might bring into view. Having established any circumstance, he boldly affirmed its reality, without regard to anything but truth. Perceiving, for instance, that the intensity of the desire for property bore a relation to the size of one part of the brain, he announced this fact by itself, and called the part the organ of Theft, because he found it prominent in thieves. When he had discovered that the propensity to conceal was in connection with another part of the brain, he announced this fact also as an isolated truth, and named the part the organ of Cunning, because he found it very large in sly and fraudulent criminals. In a similar way, when he had discovered the connection between the sentiment of Benevolence and another portion of the cerebral mass, he called the part the organ of Benevolence; and so on in regard to the other organs. This proceeding has nothing in common with the formation of an hypothesis; and, so far from a disposition to invent a theory being conspicuous, there appears, in the disjointed items of information which Dr. Gall at first presented to the public, a want of even an ordinary regard for systematic arrangement. His only object seems to have been to furnish a candid and uncolored statement of the facts in nature which he had observed; leaving their value to be ascertained by time and further investigation.

"As soon, however, as observation had brought to light a great body of facts, and the functions of the organs were contemplated with a philosophical eye, a system of mental philosophy appeared to emanate almost spontaneously from the previous chaos.

"Although, when the process of discovery had proceeded a certain length, the facts were found to be connected by relations, yet, at first, it was impossible to perceive their relationship. Hence, the doctrines appeared as a mere rude and undigested mass of rather unseemly materials; the public mirth was, not unnaturally, excited by the display of organs of Theft, Quarrelsomeness, and Cunning, as they were then named; and a degree of obloquy was brought upon the science, from which it is only now recovering. At this stage the doctrines were merely a species of physiognomy, and the apparent results were neither very prominent nor very inviting. When, however, the study had been pursued for years, and the torch of philosophy had been applied to the facts discovered by observation, its real nature as the physiology of the brain and the science of the human mind, and its beautiful consistency and high utility, became apparent, and its character and name changed as it advanced. It is finely remarked by Middleton, that no truth 'can possibly hurt or obstruct the good effect of any other truth whatsoever: for they all partake of one common essence, and necessarily coincide with each other; and, like the drops of rain which fall separately into the river, mix themselves at once with the stream, and strengthen the general current.' — *Combe's System of Phrenology*.

47. — THE AUTHOR'S OWN EXPERIENCE AND TESTIMONY.

A COLLOQUY at Amherst College commencement, in 1832, when Spurzheim arrived in Boston first called my attention to the *fact* that Phrenology claimed to reveal the character from the head. The idea struck me favorably from the first, despite its ridicule, and I at once began to look at heads, wondering what this shape of head signified, and what that.

In 1833, I borrowed "Combe's Elements of Phrenology," and a phrenological bust, from my classmate, Henry Ward Beecher, and began its study in right down good earnest, without a teacher, but with zeal. As I that year entered upon the collegiate study of mental philosophy, my more especial object was to compare Phrenology, as an expositor of the mind, with Brown's, Stewart's; and other metaphysical text-book systems, and found it immeasurably their superior. Meanwhile I learned the location of a few of the organs and Faculties, from inspecting the heads of fellow-students, among whom I began to be so noted for making correct "hits," that they flocked around me, all curious to hear what I would say about themselves individually, and each other, thus interrupting my studies.

MY FIRST CHART, which consisted simply in the names of the organs in their order, after Combe, was published this year, on which I marked the organs of applicants by numbers, ranging from 1 to 7, for which, to get pay for this *chart*, not labor of marking, I charged *two cents* each.

MY PROFESSIONAL LIFE began thus. A classmate, after our graduation in 1834, came to Brattleboro', Vt., to lecture on the "Battles of the Revolution," a re-hash of collegiate lectures by Professor Fiske, but failed. This fired me with an ambition to try *my* hand at lecturing on Phrenology, since I had nothing special to do after graduating, and before the next term began at Lane Seminary, Ohio, which I designed to enter, in preparation for the orthodox pulpit.

ONE night I lay awake "till broad daylight," first thinking out whether or not I should make the attempt, which I finally resolved to do; next studying up my form of notice for my proposed handbill and advertisements; and finally studying out improvements in my chart, in giving the definitions of the Faculties *in*

three degrees — the first attempt at such degree description, and spent nearly a week on it; bought paper, hired printer, and got out a thousand copies, along with my handbill; ordered a bust, and thirty-two dollars' worth of works on Phrenology, opened my lectures, threw out my card, charged men twelve and a half cents for a phrenological chart, marked, and ladies and children six and a quarter cents; cleared forty dollars in the place, and started for Saratoga, meanwhile writing to my brother, L. N. Fowler, who had gone from Amherst Academy home to Cohocton, Steuben County, N. Y., to come back, and meet me at Saratoga. He arrived first, went to Brattleboro' to find me, returned, and we opened at Waterford; went next to Troy, and I to New York City, he West.

TWO COLLEGE CLASSMATES gave me my first satisfactory *test* of the truth of Phrenology. One was smart, the other dull, but both were excessively conceited, and both their heads projected far out and back to a peak at their crowns, where Ambition is located, as in engraving No. 10, the smart one having a good sized forehead, the dull one a low, narrow one. Their characters thus corresponded perfectly with their Phrenology.

THE FESSENDEN FAMILY, of Brattleboro', gave me my most conclusive test. I had known its members for years personally, to be rarely equalled, never surpassed, in genuine goodness, in kindness to the poor, in missionary labors, in hospitality, in all the aspects of Benevolence. Of course I must tell them *their* characters, and found in them, from the grandmother through all her numerous sons and daughters, then in or past middle life, a development of the *organ* of Kindness commensurate with their uncommon goodness. The whole family were also noted, far and near, for their rigid uprightness, and, doing a large business, which required many hands, they had given abundant illustrations of both these traits. Accordingly, I found Conscience, as well as Kindness, as remarkably developed in their heads as I knew it to be in their characters.

OTHER LIKE coincidences, touching other organs and Faculties, kept perpetually astonishing me. Though I fully believed in Phrenology, yet as one after another of these coincidences between the organs and their manifestations addressed themselves to my *senses*, I kept wondering, and ejaculating to myself,

"Really! Can this be possible?" For readers will find a general belief one thing, and a tangible *knowledge*, forced home upon their very *senses*, quite another. In cases, literally by tens of thousands, professional applicants, after I had made and *written down* my predications, would narrate instances by the score in their lives, illustrative of the truth of my descriptions of themselves.

IN ALBANY, after my return from Saratoga, I stopped a few days, made known my business, was unnoticed, though the constitutional convention of New York was then revising the state constitution, till one of its members — Colonel Stevenson, now commanding in California — called to "refute this humbug," was described, to his complete astonishment; *insisted* that some one had been telling me all about him; was bound to see "this thing fully tested;" brought in one after another of his co-conventionists, and other prominent men of his acquaintance, among whom were Croswell, editor of the Argus, Marcy, afterwards governor and secretary of state, Silas Wright, lawyer Peckham, and other then rising men, and found every predication of each one just as he knew them to be, except that when my predications differed from his suppositions, he found the testimony of his friends unequivocally in accord with my prognostications, till finally he gave it up, after having tested me blindfold, and every way he could devise, and will to-day confirm by detailed incidents all here said, and add thereto. Croswell also gave me a favorable notice in his Argus.

INNUMERABLE FACTS like these finally brought the full, complete, absolute conviction home to my inner consciousness that Phrenology really was an actual, tangible, veritable, experimental, reliable *science*; so that I am now no more surprised when applicants illustrate the truth of what I have just said of them, than that sun and stars rise and set, or tides come and go, just when the almanac says beforehand they will. Any one who may sit in my office awaiting his turn, will mark the perfect assurance, the complete confidence underlying my mode of description, which presupposes not the shadow of a doubt of the truth of my delineations, but the most complete assurance of their detailed correctness, — a confidence which equally underlies all my public tests of the science. In fact, I neither guess at what I say, nor even be-

lieve it, but I *know* that the character accords with my descriptions, just as much as I *know* that the sun will rise "on time." I would not give a penny apiece to have everything I say of every person *guaranteed* to be correct; for the phrenological developments *constitute* such a guarantee. I FIND NO FAILURES, except where I may fail in correctly interpreting the phrenological or physiological conditions. *I have never found the science itself* at fault; no, not in one *single* instance in all my *forty years* of professional practice.

MISTAKES I have sometimes made, but always from some defect in my *observations* — and it does, indeed, take the utmost mental activity and vigor to read character correctly. No one can imagine how much, till he knows by experience. The *direction* Faculties take may not always be pre-apprehended, such as whether Causality shows itself in any particular person in arguing or thinking; in reasoning on law, or politics; or in laying business plans; or in common sense; or in making mechanical inventions; but the *relative power* of Causality is as its organ says it is.

GO WHEREVER the English language is spoken, and you will not talk long among intelligent persons about O. S. and L. N. Fowler, without hearing some one of them tell of some remarkable phrenological hit made by one of these phrenological brothers on some ancestor or acquaintance of somebody.

EXPERIMENT is the test of all truth. If this science would not stand *that* ordeal, I would never open my mouth in its behalf. But it *has* stood it *forty years*, and *grown* under and by means of these test examinations. Early in my professional career I boldly challenged all to test me in public and private, *blindfolded* if they liked, and remember scarcely a single failure throughout my long practice. One such occurred thus: A public blindfold test was proposed which I accepted. A committee to select subjects was chosen by the audience, I said, "give me only *normal* cases, not any in an abnormal condition, for I am tired out," and accordingly was not "on guard" for such; but a flat, born bright, yet made foolish by an over dose of opium in a fit of sickness when about five years old, was brought forward. If I had not been fatigued, I should have caught his disordered physiology; but I did not, and described his *original*, but not his existing character. A blindfold test is not fair on the part of the science, because the

examiner can form but an imperfect diagnosis of the subject's Temperaments, on which more depends than on the mere size of the organs themselves, — a subject we shall soon discuss. Still, under all these disadvantages, not one out of hundreds of my public and private "blindfold tests" have failed to convince all present that Phrenology is a veritable experimental science.

PHRENOLOGY HAS SPREAD by virtue of these public and private experiments. From being universally ridiculed in 1832, it is universally respected in 1872, except by conservative bigots, who wish "all things to *remain* as they were from the beginning." Those whom it would unhorse have a pecuniary motive in decrying it. Doctors often oppose it, probably because its doctrines certainly do teach men how to *keep* well, and dispense with medicines and their expenses. Ministers often oppose it because it conflicts with many of their isms, the fashionable because it often discloses poor heads on purse-proud shoulders; yet, notwithstanding all, it is daily striking root deeper, and spreading itself wider every year as time rolls on. And it *will soon have a great revival*.

MY OWN PROFESSIONAL PRACTICE increases yearly. I am better and better patronized every time I revisit a place than I was the time before. I will not now put my professional plough into new soil, because the old is easier tilled, and yields better returns. Children and grandchildren patronize me by thousands, whose parents have derived so much benefit from my examinations made many years before, that they have charged their descendants to embrace the first opportunity to obtain a like good for themselves.

L. N. FOWLER'S success in England, where he has been since 1860, is commensurately great; and Englishmen think before *they* patronize. Whatever can grow under the proverbially sharp scrutiny of Americans *forty years* and Englishmen fifteen, must needs have some merit.

SECTION V.

OBJECTIONS: CONFORMITY OF THE SKULL TO THE BRAIN
SINUSES, ETC.48. — THE SHAPE OF THE BRAIN CAN BE DETERMINED FROM
THAT OF THE SKULL.

THE INNER AND OUTER TABLES of the skull generally correspond. All observers of open skulls can see that they are about equidistant in all parts, except in the special cases to be specified, so that the general forms of the *head* give us those of the *brain*. Mere cavillers and quibblers, seeking something to say against Phrenology rather than the truth, say they do not, and cite, in proof, the frontal sinuses; but honest seekers after truth will find both tables substantially parallel to each other. Let high medical authority answer: —

“WE can form an accurate idea of the volume of the region of the brain which it covers by simple inspection of its external table, the internal table being perfectly parallel, and the degree of elevation of the one corresponding strictly with that of the other.

“When a portion of the cranium is developed, the portion of the brain corresponding with it is also developed.” — *Vimont*.

“THUS we find that the bones of the head are *moulded to the brain*, and the peculiar shapes of the bones of the head are determined by the original peculiarity in the shape of the brain. I have seen one striking instance of the skull's decreasing with the brain. It occurred in an individual who died at the age of thirty-two, after having labored under chronic insanity for upwards of ten years, and whose mental weakness augmented in proportion to the diminution of the brain and the shrinking of his skull. The diminution of his head in size, attracted his own attention during life. Cuvier is still more explicit upon the same point. He says, ‘In all mammiferous animals, the brain is moulded in the cavity of the cranium, which it fills exactly; so that the description of the osseous part affords us a knowledge of, at least, *the external form of the medullary mass within.*’ Magendie says, ‘The only way of estimating the volume of the brain in a living person, is *to take the dimensions of the skull,*’ &c. Other authors might be quoted; but these are sufficient for our purpose; so that *anatomists* and *physicians*, at least, cannot, with any appearance of consistency, question this proposition; and no others have any right to do so. Its correctness stands, then, unshaken.” — *Charles Bell's Anat.* II. 390.

THE SKULL is formed and modelled ON, and AFTER, and TO the brain, not the brain after the skull. The conformation of the

skull predetermines that of the brain, not the brain that of the skull. Which is shaped first? and which *for* the other? determines the issue. Of course the brain is the lord, the skull its serf; the brain primal, the skull subservient and conformatory.

1. The skull is usually from about one eighth to three eighths of an inch thick, though sometimes exceeds six eighths.

"THIS alone upsets Phrenology, or, at least, renders it practically valueless, because this difference prevents one ascertaining the size of the brain as a whole. Two heads may measure alike, yet one skull be thin, the other thick, so that the thick one has not half as much brain as the thin."

TWO SIGNS enable us to estimate correctly the thickness of the skulls of different persons. First, coarse, heavy, large-boned persons have skulls the thicker in proportion as they are the larger boned and coarser grained. Secondly, the skull serves as a sounding-board to the voice, so that its thickness in any particular person can be correctly estimated by noticing whether his voice has a clear, ringing, sonorous, vibrating sound, or one dull, flat, thick-pated.

PRESS BOTH HANDS, when open, upon the skull of a person while he is speaking, fitting them, fingers and all, snugly to his head, bearing on quite hard, and you will find these vibrations becoming, under this pressure, indistinct, like the sound of a muffled bell, the sounds as it were flat; yet, on removing your hands, you will find these vibrations again clearer and more ringing. This difference will teach you to estimate the thickness of any one's skull you may hear speak by this sign. The thinner it is, the more clear and ringing will these vocal vibrations be like unmuffled drum, but the less ringing and more like a muffled drum these vibrations are, the thicker is the skull. All persons thus tell knowing ones every time they speak about how thick and thin their skulls are.

AFRICAN skulls are usually thicker than Caucasian, and a comparison of the voices of each will give a clear idea of this test, and its application.

2. ALL SKULLS are thinner, and usually more than as thin again at the temples and cerebellum than at their tops and crowns, doubtless because muscles on these thin places partly subserve the protective office of the skull. We may therefore

always make all due allowances for these differences, since all skulls are thicker or thinner in *like places*.

3. Fine-skinned, fine-haired, and delicately-organized persons always have thin skulls, and coarser grained persons the thicker ones.

4. WHENEVER and wherever you find a protuberance on the skull indicating that any phrenological organ is largely developed, saw it open, and fill the inside at that point with wax or calcined plaster wet, or anything else to get its inside shape, and you will find a protuberance on the cast like that on the skull. Or, what is the same thing, a hollow in its *inside* corresponding with the swell on its outside. Any number of skulls thus examined and cast, will prove that their outer and inner tables substantially correspond. Those misrepresent who say they do not.

5. "BUT THE FRONTAL SINUS, that great hollow between the two tables of the skull over the eyes, found in some, but not in others, prevents the formation of any correct ideas of the shape of the brain of any given person over these organs."

1. ALL BUT FOUR of the forty-three organs can be correctly diagnosed in *all* cases, and in most cases all but two.

2. AN OCCASIONAL failure to estimate correctly these organs in no way hinders observing the balance correctly.

3. ALL SCIENCE encounters difficulties equally great, or greater. Do difficulties in the way of making *some* of the observations of any science annul all its *other* facts? Does an occasional eclipse of some one of the heavenly bodies disprove astronomy? Does a mirage towards the poles overthrow the principles of optics, or disprove the refraction of light? Does our inability to count *all* the stars in the firmament prove that there are none there? Does the impossibility of counting *all* annul the existence of those we *can* count? Or does the sun's being sometimes beclouded prove that there *is* no sun, or that it never shines? And yet these are the precise arguments of our opponents. Difficulties do not kill truths.

4. IN ALL CHILDREN AND IN MOST FEMALES no such sinus occurs, so that the truth of these organs can be verified upon them.

5. FROM A QUARTER TO HALF an inch is the range of these sinuses. This engraving illustrates their usual thickness — a small affair to make so great an ado over. Gentlemen objectors, if

this is all, your objections are puerile. Say nothing, or try something more weighty. Any village pettifogger could urge arguments more plausible against Blackstone, and pedagogue against Astronomy.

6. THE VOICE, whenever these sinuses exist, proclaims both such existence and their size, by its having a hollow, rumbling sound, as if there were a hollow place in the skull. We can thus *estimate* the size of the sinus and underlying organs.

FRONTAL
SINUS.



7. DR. SEWALL, of Washington, D. C., made a great handle of both this point, and of the great thickness of several skulls he obtained from lunatic asylums. He even went so far as to make a book against Phrenology out of them mainly. But this science claims to predicate its observations on *normal* heads, not on abnormal, nor on that of aged persons; some of his specimens having been old and chronic lunatics.

No. 46.

9. EXCESSIVE ACTION usually reduces size. As overworking the muscles in man and beast makes them small, so the *violent chronic* action of the mind must needs reduce the size of the brain, and of each of the phrenological organs. This must of course leave a vacuum under the skull, unless all-provident Nature can contrive some way to fill it, for she can never tolerate vacuums in active organs. She fills sometimes by a deposit of bony matter on the inside of the skull, and at other times by allowing the external pressure of the atmosphere, which is some fifteen pounds to the square inch, to press the skull gradually in upon the brain, as the latter shrinks, as just seen in the preceding quotation from Bell.

10. INFLAMED ORGANS generally diminish, just as do inflamed limbs, and all other inflamed parts. In many instances, Amativeness, and the entire pelvic region, when long-inflamed, as in chronic nymphomania, and perpetual sexual cravings and excesses, dwindle and become small.³³ Still, one need be at no loss to tell, from concomitant signs, whether this organ is small by nature, or rendered so by sensuality. Many years ago, L. N. Fowler pronounced the greatest libertine in Nantucket deficient in this passion, to the great discredit of Phrenology — a mistake easily explained on this hypothesis. In such cases, a shrewd eye is necessary, which a Phrenologist should have.

49.—DRS. SEWALL, HORNER, AND HAMILTON, AND THEIR OBJECTIONS.

12. PERSONAL SPITE made Dr. Sewall an anti-Phrenologist, as the following narrative will show :—

DR. SEWALL, in 1835, while I was lecturing in Washington, D. C., was almost my first patron. He came incog., to test the science; confessed to the striking correctness of my delineation; said I had told him many things more correctly than his best friends and own family could have done; had revealed some specialties he had thus far succeeded in keeping out of their sight; that he had written a book against Phrenology, and wanted me to examine the skulls from which his objections were drawn, &c.

I REPLIED that I cared nothing for his book or skulls; that Phrenology should stand or fall by its *experiments*; that he might select any of his friends he pleased, whom I was not to see, blindfold me himself, to see that it was well done, and in that state I would describe them; that *he* should write out their special traits from what he knew of them; that *my* remarks of them should be reduced to writing; and that if his friends, who were to be the umpires, did not say that my description came nearest to their characters, I would give in; but that if they said mine were nearest, he should "own up beat." This was the most searching test I could devise. He accepted it, and it was to come off before my audience at my next lecture.

THE BLINDERS were put on by Dr. Sewall himself, some lady pressing her gloves up between my eyes and the bandage, and chose and brought forward some subjects, without a lisp of their names being given, and among them slipped *himself* into the chair for reinspection. Our two descriptions were read before the audience, and every one of his friends examined, and *their* friends, attested that mine was the most graphic and correct.

WHEN challenged the next day, in my office, to renounce his opposition to Phrenology, because the test proved the science, he replied substantially as follows :—

"To TELL the truth, I have studied Phrenology myself, and once advocated it, but I turned against it on this account."

"DR. CHARLES CALDWELL announced a course of lectures on Phrenology in Washington, the tickets to which were five dollars, and solicited my subscription, which I gave. But as I interested myself very

much in his behalf, and got many of my friends to subscribe, besides our both being doctors, I thought he ought to excuse me from paying this five dollars. But he insisted on its payment. This turned me against him, and I have taken and had my revenge by ridiculing the science of Phrenology he advocates."

I PUBLISHED this statement in the American Phrenological Journal, in 1839, which I got up, then owned and edited, sent a marked copy of this passage to Dr. Sewall, called his attention to it by letter, and solicited a reply. He made none, obviously on the principle, "Least said, soonest mended." Judge how much his book is worth.

TWO OTHER opponents to Phrenology, and their objections, deserve each a momentary notice. One, Dr. Horner, long a professor in a Philadelphia medical college, and the minutest anatomist of his day, was accustomed in his lectures annually to attack Phrenology, and to exhibit a brain preserved in spirits, the fore part of which had sloughed off from suppuration.

YEAR AFTER YEAR, while I practised Phrenology in Philadelphia, his students kept referring to this brain as a "poser" to Phrenology. I finally determined to *see* it, and accompanied by Dr. Drake, I think, of Cincinnati, Rev. Mr. Fuller, and some others, called to see this oft-mentioned brain. Setting it before us, Dr. Horner took down his book on "Anatomy," and read his statement of it that the whole frontal lobe was destroyed by suppuration, without injury to the patient's intellect, &c.

I SAID, "Stop, doctor; this frontal lobe is destroyed on only *one side*. See those perceptive lobes on one side, and even Causality, remain sound." He replied:—

"O, but see what my *book* says."

"I BEG PARDON, doctor, but I must follow *my own eyes*, and the eyes of these gentlemen, and even *your own*, instead of your book. Your specimen and book contradict each other. Your book says the whole intellectual lobe of this brain is destroyed, whereas our *eyes* prove that the convolutions on *one side* of it, both below and in front, are intact. Your book misrepresents.

"Besides, did you examine him mentally, to see whether he retained, or had lost, his various kinds of memory and intellect?"

"O, no; he was too sick for *that*."

"YOUR BOOK contains two errors: first, in asserting that the entire intellectual lobe was destroyed, whereas one side remains entire; and secondly, that he retained all his intellectual powers unimpaired, whereas, you now say he was 'too sick for that.' Since this is all your 'poser' amounts to, Good day."

BOTH THIS BRAIN itself, and Dr. Horner's account of it, are doubtless still preserved; so that this account of them can still be verified or contradicted by *facts now extant*.

DR. HORNER'S OWN HEAD and character furnished one of the strongest of proofs that Phrenology is true. He was the most minute anatomist of his day. This required large Perceptives, which were larger in his head than in one out of a hundred thousand. Yet his forehead was low and narrow; that is, he lacked the *organs*, as he certainly did the Faculty of reason. He did and could look, but not *think*.

DR. FRANK HAMILTON, since United States surgeon-general, published a pamphlet against Phrenology in Rochester, N. Y., about 1841, in which he narrates the case of "an accomplished young lady of Cleveland, O.," who, he said, retained all her intellectual powers, even to playing finely on the piano, yet a post mortem dissection of her brain, made to see what had caused intense pain in her forehead, along with a bony projection on it, proved that a bony tumor had grown down into her frontal lobe, and occupied her entire forehead! Could Phrenology be expected long to survive *such a "stunner"*?

I INQUIRED, the next time I visited Cleveland, for this young lady, found she had lived and died three miles east of Cleveland, and had the bony tumor, as he described; but, though she *had been* in former years a good scholar, and an accomplished musician and lady, yet that, for years before her death, she had been gradually *losing her senses*, till, for months before, she had become so very a fool that she did not even know enough to *keep out of the fire*, and died finally from falling *down stairs*, when her mother left her half a minute to do something for her. I had this account from her uncle.

HAMILTON COPIED this case from a Cleveland doctor, but *indorsed* it, and is therefore responsible for its untruth.*

* In 1841, the Author published a pamphlet in answer to Hamilton's pamphlet, but has lost all copies of it. It formed part of Vol. IV. of his Journal, and was

This triumvirate of phrenological cavillers probably simplifies most of their co-workers. Gall usually treated his opponents with dignified silence, conscious that his doctrines would finally put them to shame. And so they will.

RESUME of this chapter. We have proved —

1. That the mind is composed of primary *mental Faculties*.
2. That the brain is the organ of the mind.
3. That the brain consists of *as many organs* as the mind does of Faculties, each Faculty manifesting its functions by means of its own specific organ.
4. That size is a measure of power.
5. That the size of these organs can generally be estimated quite accurately from the configuration of the living head.
6. That the shape of all things, that of the head included, indicates general and specific characteristics.

Are not these doctrines severally and collectively self-evident in fact, and correct in theory? Do they not accord singularly with all the phenomena of mind, and with all other natural truths? Have one of them any one feature of improbability about them?

THE INTERNAL evidence of the truth of Phrenology, however, constitutes by far the strongest proof of its truthfulness. All truths carry along with them their own warrant and witness that they really are true. Our inner sense, when unbiassed by prejudice, is a good test of truth. The consistency of all truth with all other is another. But, after all, the moral *lessons* it teaches are its highest warrant. The strongest proofs of Christianity are the exalted *morality* it inculcates. All truth teaches some great *practical lessons*; and whatever teaches them is true. Phrenology appertains to human life. Therefore, if it is true, it must needs teach mankind *how to live* aright. And as far as it does teach valuable life lessons, it *must* be, and *is*, true. Note, then, opponents and advocates, how most exalted, how surpassingly important, how inexpressibly beautiful, how even all-glorious, are those moral and philosophical *inferences*, as to the conduct of human life, which flow forth spontaneously from its principles! Scan any and every page of this volume, and of its successor, Sexual Science, and behold in *every single* paragraph, some beau-

also published in pamphlet form. Any one who may have a copy of it will do him a special favor by informing him where and how it can be obtained.

tiful truth unfolded, and applied to promote human weal, or alleviate human woe, or else guide inquiring mortals to a higher, truer, purer, happier life! To what one of all its doctrines can even cavillers take exceptions? Are not all lovers of both truth and of man morally bound by that love to countenance this great teacher of righteousness, this apostle of universal right, this obvious messenger of the Lord on high? Surely its opponents "know not what they do," or they would *help* what they now hinder. Humanity, forgive them! God, forgive them! But the evil effects of their opposition will follow and curse them and their followers, till God makes their very "wrath to praise" Him. They are making fools of themselves before all men, who, fifty years hence, will retort, —

"You are fools, or bigots, or both: fools not to see that Phrenology is true, and bigots to allow prejudice to blind your eyes to its evidences, which are just as apparent as daylight. And *sinner*s, to boot, by thus misleading your followers. You are blocking the wheels of human progress, and wickedly opposing man's greatest good. Away, ye blind leaders of the blind, into merited oblivion, with human curses *chasing you forever!*"

THE EXPOSITION of this science comes next in order. We have dwelt thus long upon its evidences, because the human mind justly demands *proofs first*, expositions afterwards. Considering its fundamental principles now established, we proceed to discuss those *organic conditions* which affect and indicate human character.

THE VASTNESS of our inquiry is self-evident. We are attempting to expound the *human soul*, together with all its outworkings. What else bears any comparison with this in its relative importance, and intrinsic interest! Think of the untold myriads of the mental phenomena it is to unfold!¹⁷ Think for how great a diversity of human characteristics and specialties it is to account! Our subject is *mind*, not matter — that subtle entity in which we live,¹⁸ not something we can weigh and admeasure!

AND in expounding this "*spirit* of man," we are expounding its *Maker*, and our God!¹⁴ Well may Author and readers pause and tremble at the threshold of an undertaking *thus* vast and momentous, but that we are emboldened and strengthened by the consciousness that we are *in the truth!* And God's *greatest truth!*

CHAPTER III.

ORGANIC CONDITIONS, TEMPERAMENTS, SELF-CULTURE, ETC.

SECTION I.

THE MENTALITY PRE-DETERMINES THE ORGANISM, FORM, ETC.

50. — THE SPIRIT PRINCIPLE CONTROLS THE ORGANIC STRUCTURE THROUGHOUT.

ORGANIC FORMS literally fill our whole earth, which was obviously created as an abode for all kinds of life, animate and inanimate, vegetable, animal, and human; ²⁹ and most admirably does she subserve her life-developing mission. She is material, obviously in order to furnish the materials for the organic formation of all those multifarious and diversified kinds of beings which inhabit her aerial, aquatic, and terrestrial domains.²⁵ Over *thirty thousand* kinds, each differing from all the others, have already been discovered, of which the household fly, with all its inconceivable myriads, constitutes but one; and we are daily discovering more. Nature's obvious policy is to create all she can support, and pack all her vast borders with some form of life especially adapted thereto. The most enjoyment possible of the greatest number, is her motto. To redouble this her infinitely beneficent "policy," her forms of life must be diversified as much as possible. If they were homogeneous, if all fed upon one kind of food, comparatively few could ever be fed, and the great bulk of her feeding material must go to waste, right among starving myriads, because they were not fitted to eat it, nor it to nourish them; whereas, diversifying her forms of life and of food, supplies some kind of food for every form of life, and leaves little of any kind of aliment capable of feeding any species of life, to waste uneaten, one kind of hungry eater or another being always "around," and "on hand," to appropriate it to their life needs; some grazing or browsing, others eating roots, grains, seeds, or fruits, and others other animals, and even carrion and garbage.

THEIR HABITATIONS must be equally diverse, for if all loved and crowded into one place, it would soon be too full for any to be happy in it, while the great mass of her space would remain uninhabited; whereas, this diversification of abodes, one on dry land, others in water; and still others in intermediate marshes; some crawling or climbing, others swimming or flying, and still others walking or running, traversing air, earth, water, and swamps in all directions, crowd all parts with teeming existences. Behold the superlative advantages of this diversifying arrangement!

DIVERSE ORGANISMS become necessary in order to fit them for these different forms of life. A shark must differ throughout in structure from an eagle, and both from a sheep, and all three from a duck, and all the species of animals from each other; and man from them all.

EACH MUST BE EXPRESSLY FITTED in structure for its peculiar habits and modes of life. A cat needs claws, and cannot execute its specific instincts without them, while a horse does not need them, and could not use them if it had them; whereas, none must be lumbered up with unnecessary organs.

THE ADAPTATION of each animal, structurally, to its peculiar wants, is inimitably perfect. The turkey-buzzard must live on carrion, and cannot live well without it. Of course it must *find* it, before it can eat it. This requires that it soar leisurely above it in the air, to both see and scent it; and how perfectly it is adapted in structure to this, and to all the other demands of its entire nature. It needs no claws, for it has nothing to gripe in them, and accordingly has none; while the eagle requires and has them. This is equally true of all felines; yet what could bovines do with them? and they never have them.

EVERY PART OF EVERY ANIMAL is specifically adapted to its instinctive requirements, down to every bone, muscle, nerve, and iota of each. To say how perfectly, would detain us too long. Would that some book detailed the structural adaptations of all animals to their several habits. Yet every animal furnishes a perfect and perfectly minute illustration of it. And —

MAN THE MOST, if most were possible. Who but *God* could have thus fitted every iota of his anatomy, and physiology, and Phrenology to his precise needs and requirements. Bones, and

their joints and ligaments; teeth, in their number and formation,⁹⁶ enamel included; heels, with their dermic cushions; head, eyes — but, O God! how perfect hast Thou made man, and fitted him for his natural destiny!

HOW CAME he, and all other forms of life, fitted each for its specific demands? All terrestrial ends are effected by some adequate *means*; nothing without. What are these means? This is the exact point of our inquiry — *By what means* are all animals, even all vegetables, thus perfectly adapted in structure to the requirements of their inner nature?

“God adapted them. This answer is apparent and comprehensive, and covers the entire ground throughout.”

BUT HOW did He thus adapt them? True, He maketh all things, and infinitely well; but *how* does He make them? By *personal* supervision? By standing perpetually over each creature and organ of each, to see and shape it just thus and so throughout, and no other way? Excuse the seeming impiety, but this must keep Him rather busy in looking *personally* after every fly and gnat, as well as mastodon and whale, and all the teeming myriads of all His creatures, on each of all the starry orbits of His infinite realms.

No, pietarians, this answer will not do. It may have piety enough, but it lacks *sense*. This personal creation and supervision doctrine, this special Divine Providence theory, is contradicted by that great “cause and effect,” government by means of natural laws, already demonstrated.¹⁹ Those who adopt it may be devout, but they are not philosophical; whereas, to be perfect, one must be *both*. This “gradual development theory” will stand scrutiny, while this *personal* interposition by miraculous divine fiat, will not. Yet He is no less “glorious” in making and doing by means of natural laws, than of a thus-saith-the-Lord ukase. These points are not now on the tapis of discussion; yet the *mode and manner* by which the structure of all things is thus specifically fitted for their exact wants is. How came sharks to have teeth at all? and those short, double-rowed, and flexing backwards, and adapted not at all to chewing, but only to *holding* their prey merely till they can swallow it? while lions have teeth adapted to tearing, as well as holding, but not to

grinding, yet all ruminantia have teeth adapted to mashing? How come the alimentary canals of all graminivora to be long, and carnivora short? Why are all lions largest before, and kangaroos behind? cranes and serpents long, and ducks and turtles short? *Why* do hoofs form at the ends of the limbs of bovines, and this shaped hoof on this animal, and that on that, while felines have claws, and men toe and finger nails? Why is man formed to walk erect, but beasts to go on "all fours"? In short, why and how are all things fashioned precisely as they are, and that in specific adaptation to their individual requirements? No ordinary answer will suffice; nor will any special formation theory. The answer must conform to this "natural laws" ordinance of things.¹⁹ Reader, have we *stated* this problem fully and fairly? We propose to give it a *scientific*, and a *philosophical*, and the *only true* solution, and, withal, one entirely *original*. Mark it well.

"MIND IS LIFE."¹⁸ The *spirit principle* of all things "is the life thereof." It is the only thing to be served by the organism. Is the organism primal, or only secondary? Was body made for mind, or mind for body? Let the inner consciousness of all human beings, and the entire fitness of things, answer. Let the fundamental principle and corner-stone of this volume, that the sole end of all life and its organs is happiness,¹⁵ be heard in this its answer: "All things were created, and are expressly fitted, to *enjoy*, and mind, soul, is the enjoying entity;¹⁸ therefore all bodily organisms are subservient to this enjoying entity" — a logic which cannot be gainsaid. The *spirit* nature of every thing whatsoever is the centre fact of its existence, to which all else is secondary and contributory.

THIS SPIRIT PRINCIPLE CREATES ITS OWN ORGANIC STRUCTURE, and one precisely fitted to promote its enjoyments. The shark was created to be happy.¹⁵ Its happiness consists in seizing other fish; therefore it must have an organism fitting it to swim, and that faster than they, and seize and hold on to them till it can swallow them whole. This its spirit nature desires and strives to do; but must first have the *tools* with which to do it; and *make* them before it can have them. It must begin to fit its organism for its special uses from the instant its formation commences. The first particles put up into its organic form must lay

its very foundations in view of its subsequent requirements. Its spirit entity forms its organic apparatus in view of its own instinctive wants, and adapts all its respective parts to it. A shark has a shark's body in all its details, because it first has a shark *mentality* — that grand controller of all else.¹⁸

A KANGAROO grows up very large behind, but small before, because its primal *nature* demands that it both escape its enemies by flight, and move forward by long leaps, which are executed mainly by its hind quarters, its fore parts being used comparatively little, so that its spirit nature takes less pains with them, sends but little blood to them, in short neglects them, its exterior growth being predetermined by its mental instincts.

LION INSTINCT, per contra, needs to put forth tremendous power in his *fore quarters*, and accordingly sends a corresponding rush of blood, freighted with formative materials, to these parts, to make them large and strong. He requires, and must have, claws, but must first make them. This lion mentality involuntarily sends claw-forming materials just where they are wanted, and aggregates these particles around its well-laid foundation; shapes them to its wants; and then uses them. A set of *mental* claws, inherent in lion nature, and forming a part of it, fashions material claws to its special wants, and makes bones and muscles to match. In short, the *living principle* of every vegetable, every animal production constructs its own material temple according to its special demands.

THIS LIFE ENTITY, this *vis naturæ*, this *soul* of every living thing, has impressed upon it, along with its existence, an inherent tendency and craving to *act*, to express itself, to *do*, to work out its natural destiny, in accordance with that first instinct of all life to put forth its special functions. Yet another natural law, that no functions can be put forth without organs, confronts it.²⁵ It *must* act, must first have appropriate organs, and must *make* them, through which it can express its functions. To this end it must obtain *materials* out of which to manufacture them. To make such organs as it needs out of stones and dirt is impossible, or at least would consume too much of its precious energies. But it finds materials already organized exactly suited to its wants in its food. It must then seize and appropriate these lower organic forms to its own exclusive use, in obedience to

that great and wise natural law that the lower orders of life must serve the higher, even to yielding up their own. Without any sympathy or scruples, it seizes whatever raw materials it may want, wherever it can find them.

THE DESTRUCTION of this old organic form is its first work. Before it can appropriate other structures to its special uses, it must *disintegrate* them, resolve their particles back into their primitive elements, that it may select just what, and only what, it requires; for it cannot transfer them bodily from the old organism to its own.

BONES, MUSCLES, NERVES, TISSUES, &c., are what it requires, and must therefore make. It must then seize those organized substances which contain these materials, and *all* of them; for of what use would be one or several without all—bones without muscles; bones and muscles without nerves; or bones, muscles, and nerves without skin, &c.? Its instincts tell it just what it wants, and what substances contain the identical materials required. Fortunately it finds them all around itself; for almost all organized bodies contain nearly all these primary ingredients, though some in greater or less proportions than others. First destroying the life of its food-material, it resolves its elements back into their primal state in its digestive laboratory,¹¹⁴ and transports them by its grand porter, the blood,¹²⁹ to the identical places in itself where these materials are then required. It finds plenty of materials, but it wants only one kind in a place.

IT NOW SELECTS just what it wants, just when it wants it, particle by particle, and stows them away together where, by a law impressed upon them, they consolidate into the organs required.

A MUSCLE is needed here. This muscle-material is floating in its blood. This spirit-entity seizes it and carries it to the place where the muscle is to be made. This fibrine is one of the constituents of all blood, and derived originally from vegetable sap, which is to vegetables precisely what blood is to animals, and composed of the same chemical ingredients. We shall discuss this *modus operandi* of formation under its appropriate head. Suffice it here, that this growing or constructive *principle* inheres in life, and forms one of its constituent elements.³

EACH SPIRIT PRINCIPLE, therefore, constructs and shapes just as many bones as it needs, and shapes and places each according to

its precise requirements. A bear must have one kind of organism to put forth his peculiar kind of functions, while an oyster requires a very different one, because he must put forth functions entirely different. An oak spirit-nature needs one kind of organic structure, a grain of corn another, a pear tree still another, and a sheep, lion, and human being, each very different ones. Each must, therefore, set to work to manufacture just the organic structure adapted to itself. This spirit-principle of each involuntarily determines what, and fits it to its wants, and then uses it.

OUR THEORY OF GENDER confirms and conforms to this law. Sex *begins* in the mind. The male is masculine in person, because so in spirit first; while female nature creates the corresponding female organism, which is the larger or smaller, stronger or weaker, as its *spirit* sexuality is either.⁵⁹²

OUR THEORY OF BEAUTY of person, soon to be stated, coincides with this principle, and grows naturally out of it. We bespeak its examination.⁶⁰

51. — EXERCISE AND TRANSMISSION AUGMENT ORGANS PERPETUALLY.

NATURE TAKES AMPLE TIME for all she does. With her, thousands of ages are but as a day. All her productions have become gradually *perfected* throughout the almost infinite ages of her past. Geology shows that if the world was made in six days, those days were *very long* "periods of time," each ages innumerable.

EVERY GENERATION of this vast series *exercised* its innate powers and their organs perpetually. By another law of things, soon to be proved, that "use strengthens,"⁶²⁻⁶⁴ each generation *augments* its own specialties, and then transmits them thus strengthened to its progeny, only to be redoubled by use, and again passed on down to its progeny, thus reimproved in both its instinctive mental *powers* and their organism. Little by little, age after age, each species has thus perfected its young, and this process has not yet reached its acme. Apples are very good to-day, much better than they were ages ago; are becoming better every year through culture and parental combinations of excellences, and a thousand years hence will be as much better than our best now are, as they are than the poorest, hardest, smallest,

sourest, bitterest thorn apples now are. Horses make better time to-day than ever before, and will make better still hereafter. Man to-day is to what man is to become, only as the poorest monkey now is to the best man. This improvement is effected through improvements in this *spirit-principle*. *Interior* life improves exterior. This living principle improves itself by its spontaneous exercise of its specialties, and then transmits its improved entity to its issue, only to be in turn reimproved and retransmitted illimitably; the life germ, the inner entity, being the organizing and improving agent.

THIS DOCTRINE is not only not materialistic, but is as far from it as is possible. It makes this living principle sovereign and absolute "master of the situation" throughout.

52. — ORGANIC QUALITY THE PRIMAL INDEX OF CHARACTER.

ALL ORGANS CORRESPOND with their functions, so that, from having either, we can always predicate the other.

CERTAIN FORMS accompany and indicate certain qualities. For this reason shape is the great base of all scientific classification. Given configurations and attributes always go together.⁴⁵ Whenever we find either, we then and there find the other also married to it. How is this? True, always, of all things.

THE INHERITED NATURE of all things both predetermines their organisms, and is the one great controller of all functions. As *we are born* so, to a great extent, we must remain. Education may *teach* a tractable dog to do this, and not to do that, yet can never make him anything *but* a dog, nor even change his natural *breed*. It may greatly strengthen or weaken organs already created, yet it can create nothing, but only *develop* into practice pre-existing capacities. Strictly speaking, organisms may not be hereditary, but that which predetermines and controls them certainly is, and goes far below, yet rises far above, besides completely enveloping and overriding all other conditions.

A GOOD HEREDITARY LIFE ENTITY, along with its accompanying excellent organism then, is the first basilar, all-potent condition and indication of all power of function, all happiness, all everything. It or its origin is congenital, derived mainly from the original nature of the parents themselves, and their creative states of mind and body, their health, mutual affection, &c., or want of

them, and other like *primal* life conditions; and is infinitely more potential than education, associations, and all surrounding conditions combined; in short, is what renders grains cereal, oaks oaken, fish fishy, foxes foxy, swine swinish, tigers tigerish, and man human; and imparts to all things their instincts, natures, modes of action, and hereditary tendencies of all kinds, by transmitting to each progeny the specific *Faculties*³³ of its parents in that *proportion* in which they existed in those parents. See these transmitting conditions fully presented in "Sexual Science,"^{311, 317-322}, and applied to the *basilar* improvement of offspring, — a subject more practically important than any other, — and there, for the first time, presented as a totality, including those marital conditions on which it depends.

TEXTURE, therefore, becomes our landmark in diagnosing character. A fine or coarse, good or poor, organic structure, indicates like mental qualities. All phrenological examinations must begin mainly with them, and impinge upon them throughout.

THESE DIFFERENT organisms cannot well be described, and only partially transferred to engravings; yet a sharp, practised eye can perceive and admeasure them and their effects on character. They are analogous to the Temperaments, soon to be described, and indeed their determining condition. A comparison of the idiot Emerson (engraving No. 46 A), with Fanny Forrester (No. 70), will furnish its outline idea; while comparing man with animals, and both with vegetables, will give one still better. In fact, the main differences between vegetables and animals, as compared among one another, and all as compared with man, and different men as compared with each other, as well as the entire style and cast of character and sentiment, everything is consequent on these organic conditions — in short, is what we call "bottom" in the horse, "the breed" in full-blooded animals, and "blood" in those high and nobly born. Those marked *

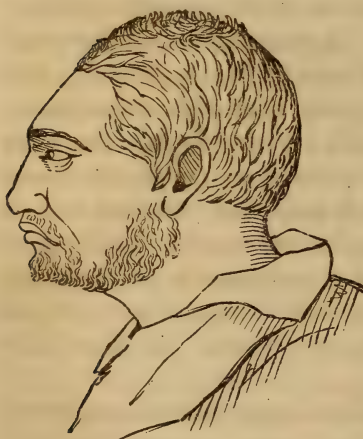
LARGE, are pre-eminently fine-grained, pure-minded, ethereal,

* One object of this book is to furnish those correctly marked in this table a complete description of themselves and friends. It can do this best by addressing them in the second person, "you are," &c. Yet the verbs end alike in the second person singular, and the third person plural, as "*they* are." Hence those who are marked by understanding "you," and in all other cases "those" before "with," will find the grammar correct. This seems the only way to effect this personal description, yet make the first words of these paragraphs express their leading idea, which we deem very desirable.

sentimental, refined, high-toned, intense in emotion, full of human nature, most exquisitely susceptible to impressions of all kinds, most poetic in temperament, lofty in aspiration, and endowed with wonderful intuition as to truth, what is right, best, &c.; are unusually developed in the interior, or spirit life, and far above most of those with whom they come in contact, and hence find few congenial spirits, and are neither understood nor appreciated; when sick, suffer inexpressibly, and if children, are precocious — too smart, too good to live, and absolutely must be reared physiologically, or die early; are finely organized, delicate, susceptible, emotional, pure-minded, intellectual, particular, and aspiring after a high state of excellence; full of human nature, and true to its intuitions and instincts; have a decided predominance of the mental over the physical; are able and inclined to lead excellent human lives, and capable of manifesting a high order of the human virtues.

FULL, are more pre-inclined to the good than bad, to ascend than descend in the human scale; can, by culture, make excellent men and women, but require it; and should avoid those habits which clog or deprave the mental manifestations, and to attain superiority, must "strive for it."

A COARSE-GRAINED ORGANISM.



NO. 46 A.—EMERSON, AN IDIOT.

AVERAGE, good in organic tone, are good under good surroundings, but can be misled; must avoid all deteriorating habits and causes, spirits and tobacco, bad associates, &c.; assiduously cultivate the pure and good, and study to discipline intellect, as well as purify the passions, and rely the more on culture and a right physiological life, because the hereditary endowment is simply fair.

MODERATE, are rather lacking in organic quality, and better adapted to labor than study; rather sluggish mentally, and given to this world's pleasures; had but a commonplace parentage; need to be strictly temperate in all things, and avoid all forms of

temptation, vulgar associates in particular, and make up by the more assiduous cultivation what has been withheld by Nature.

SMALL, are coarse-grained in structure and sentiment, and both vulgar and non-intellectual; had poor parental conditions; are low, grovelling, and carnal, as well as obtuse in feeling and intellect; are poorly organized, and incapable of high attainments; hence should restrain the passions, and cultivate intellect and the virtues as much as possible, and especially avoid alcoholic liquors, tobacco, and low associates.

TO CULTIVATE. — First, guard against all perversion of the Faculties, all forms of intemperance, tobacco, over-eating, pork, rich pastry; especially late suppers; be much of the time in the open air; work and exercise abundantly; bathe daily, and keep the body in just as good condition as possible; mingle with the high and good; exercise all the Faculties assiduously, in the best possible manner, and in strict accordance with their natural functions; cultivate a love of nature, art, beauties, and perfections — in short, encourage the good, true, and right, and avoid the bad.

TO RESTRAIN. — Cultivate a love of the terrestrial — of this world, its pleasures and luxuries; for you require to become more animalized. You live too much in the ideal and spiritual, and should live more in the material and tangible. Harden yourself against what now abrades your tender susceptibilities, and adapt yourself to the actual and material. Be less fastidious, squeamish, qualmish, whimmy, particular, and fussy, and make the best of what is. Cling tenaciously to life, its objects and pleasures, and affiliate with your fellow-men as they are, not shrink from and repel them because they are not just as you would have them. That is, cultivate the material, and restrain the ethereal parts of your Nature.

SECTION II.

THE TEMPERAMENTS, AND THEIR INFLUENCE ON CHARACTER.

53. — HOMOGENEOUSNESS AN ORDINANCE OF NATURE.

ALL PARTS of all things must act together, as one whole, in producing life; therefore all must correspond with all its co-working parts. This is obvious, both as a fact, and as a phil-

osophical necessity — is a part of that natural fitness just demonstrated.⁵⁰ If one part of an animal is built on the lion, or sheep, or serpent, or any other principle, all parts must be built upon the same principle. Hence, Nature forbids miscegenation, or the crossing of opposite species, or making monsters of their progeny. A *lusus natura* rarely, yet sometimes, occurs; but is worthless. Mermaids, whether they existed in fact or only in fancy, were departures from Nature's usual modes of formation, because parts so different must conflict with each other. "A house divided against itself," is not Nature's constructing model; but "all parts, like all its co-ordinates," is.

ALL VEGETABLE growth conforms to this law of oneness of parts. All the limbs on any tree or kind of fruit grow long or short, fast or slowly, like all its other limbs, thus forming an even head. Hence, tall and long-bodied trees generally have long branches, leaves, and roots, of which elms and weeping willows furnish illustrations; while short-bodied trees usually have short branches and roots; and creeping vines, like grapes, honeysuckles, &c., have long, slim roots, which run under ground about as fast and far as their tops run above. The Newtown pippin and Rhode Island greening, large, well-proportioned apples, grow on trees large in trunk, limb, leaf, and root, and symmetrical; while the gillyflower is conical, and its tree is long-limbed, and runs up high to a peak at its top, yet flat and broad-topped trees bear wide, flat, sunken-eyed apples. Seckel pears, small and short, yet stocky, grow on a short-jointed, slow-growing, stocky, round-topped tree; shapes of tree and fruit corresponding with each other. Very thrifty-growing trees, as the Baldwin, Fall pippin, Bartlett, Black Tartarian, &c., generally bear large fruit; while small fruit, as the Seckel pear, Lady Apple, Belle de Choisy cherry, &c., grow slowly, and have many small twigs and branches. Trees which bear red fruit, as the Baldwin, &c., have red inner bark; while yellow and green-colored fruits grow on trees the inner rind of whose last year's young limbs is yellow or green. Peach trees, which bear early peaches, have deeply-notched leaves, and the converse of late-bearing ones; so that, by these and other physiognomical signs, experienced nurserymen can tell what kind of fruit given trees bear at first sight. All other trees, with their fruits, and likewise vegetables, conform to this proportional law.

ALL ANIMALS are governed by it. A large track signifies a large animal, because it is made by a large foot, which is the larger or smaller as is the animal which made it. A great horse has a great hoof, and a small colt a small one; while a medium-sized horse has a medium-sized foot; and so of all other animals.

THE KANGAROO may seem to form an exception, but does not; for, though its hind parts are larger than its fore, yet when one part of one hind leg is large, all parts of both its hind quarters are equally so, while the hind quarters of a large kangaroo are proportionally larger than those of a small one.

COARSE HAIR, SKIN, FEATURES, AND FEELINGS usually go together, as do also fine. Why not? How could a coarse organism manifest fine functions, or a fine organism coarse functions? The very constitution of all things compels this correspondence. "Fitness, or nothing," is Nature's motto.

COARSE-GRAINED persons have coarse-grained bones, while coarse-grained bones grow in coarse-grained persons.

LARGE JOINTS AND ANKLES signify a coarse and strong, while small, trim, delicate feet, ankles, and limbs signify a delicate organization, and more refinement than power, more emotionality than stamina.

EVERY BONE of all men and animals tells the size of the animal or man in which it grew. A thigh bone so long grew in a man thus tall. Any good anatomist can tell the size, height, and weight of any man from those of any one bone of his body, just as all the bones of the mastodon and the elephant proclaim theirs.

LONG-HANDED PERSONS, in accordance with this law of proportion, have long fingers, toes, arms, legs, bodies, heads, and phrenological organs; while short and broad-shouldered persons are short and broad-handed, fingered, faced, nosed, and limbed, and wide and low-bodied. When the bones on the hand are prominent, all the bones, nose included, are equally so, and thus of all other characteristics of the hand, and of every other portion of all persons. Hence, every hand proclaims the general character of its owner; because if it is large or small, hard or soft, strong or weak, firm or flabby, coarse-grained or fine-textured, even or prominent, rough or smooth, small-boned or large-boned, or whatever else it may be, the whole body is built upon the same principle, with which the brain and mentality also correspond.

THE ANCIENTS made all their statuary on this principle, except when some other law caused a departure from it. They modeled the head of Pericles, their lawgiver, and greatest sage, so disproportionately larger than his body that he looked top heavy, because his mentality equally predominated over his physiology; ⁴¹ yet generally they took the measure of some one part for their standard, and made all the other parts to correspond with it. Thus, if they made one part long, they made all parts long, or one part short and broad, as in Bacchus, they made all parts proportionally short and round. Jupiter was made massive throughout, with a great body, head, hand, foot, everything on the great, yet well-proportioned, scale; while Venus was made beautiful, not in face, or bust, or limb alone, but in face *and* bust, limb and body. Who would have admired her if her fine figure had been marred by a homely face, or if a homely nose or tooth had marred an otherwise well-proportioned form, or a great foot had spoiled a small ankle or face? We do not always find perfect proportion in all persons, because wrong habits often thwart Nature's tendencies; yet all her workings are to symmetry.

THE SKIN is especially significant of the character of its possessor. The elephant and rhinoceros, coarse, powerful animals, have coarse, powerful skins, almost impenetrable; while man, with a finer-grained skin, has finer feelings, and woman, the most sensitive, delicate, susceptible, and emotional being on earth, has the softest and most velvety skin; and the finer the skin of any *particular* person is, the finer the feelings. Skin and brain are at two opposite ends of the nervous system.³⁷ All nerves originate in the brain, and must therefore partake of its specialties. Most of these nerves run to and ramify on the skin,³⁸ so that their texture and its must needs correspond. A fine, soft, velvety, delicate, sensitive skin, therefore, indicates a brain and mentality equally so. In diagnosing character, the skin should be one of the first things observed. Is it fine or coarse, soft or harsh, smooth or rough, velvety or horny, magnetic or half paralyzed, all alive or comparatively lifeless? and *how far* is it either, or anything else? are questions, the right answer to which is the grand, primal, basilar, fundamental determiner of the "ground swell" of the entire character.

THE EXISTING STATUS of the several functions comes next, and is also determinable by the same skin states.

HAIR TEXTURE comes next, and is like that of skin. When either is coarse or fine, harsh or soft, stiff or flexible, all else will correspond with it.

THE AMOUNT of hair on the head and body is also significant — its abundance, of strength and power of function, and its deficiency, of less functional power. Beard signifies virility, and the amount of either can be computed from that of the other, when all the other conditions are correctly estimated; and great and little beards indicate a proportionate amount of hair on all the other portions of the body. Gorillas are both very hairy, and prodigiously powerful.

COARSE-HAIRED persons should never turn dentists or clerks, but seek some out-door employment; and would be better contented with rough, hard work than a light or sedentary occupation. although mental and sprightly occupations would serve to refine and improve them; while dark and fine-haired persons may choose purely intellectual occupations, and become lecturers or writers with fair prospects of success. Red-haired persons should seek out-door employment, for they require a great amount of air and exercise; while those who have light, fine hair should choose occupations involving taste and mental acumen, yet take bodily exercise enough to tone up and invigorate their system.

GENERALLY, when either skin, hair, or features are fine or coarse, the others are equally so; yet some inherit fineness from one parent, and coarseness from the other; but the color of the eye usually corresponds with that of the skin.

WE JUDGE STOCK correctly by their "coat;" that is, by the state of their hair. A *glossy* coat signifies a good, a rough, a poor state of the inspected animal.

SHAGGY, CURLY hair signifies an uneven, variable character, and when coarse, powerful passions, yet uneven, and preinclined to extremes, but not a smooth, harmonious, consistent, proper life; while stiff, straight, black hair and beard indicate a coarse, strong, rigid, straightforward character. Mr. and Mrs. Propriety never have shaggy hair; while curls signify snap, spirit, vivacity, impulse, and variety of traits, never monotony or sameness, or a milk-and-water possessor; while smooth hair, lying so slickly and evenly down upon the head as to shine, signifies unity, self-consistency, and homogeneousness of character. Expect idiosyn-

crasies and specialties along with curls, but harmony and self-control with shining hair.

THE TEXTURE OF THE BRAIN, therefore, corresponds with that of the body, and any and every part of itself with every other part of both. The mental functions correspond with the texture of the brain, and this with that of the body, and all its parts; so that the organic conditions of the body, and of each of its parts, indicate the qualities of the mind, and natural bias of their possessors.

THIS IMPORTANT BASE of future inferences is strictly scientific, and every way a reliable diagnosis of character.

54. — FORM THE TRUE BASIS FOR TEMPERAMENTAL CLASSIFICATION.

THESE ORGANIC PRINCIPLES underlie and originate the Temperaments, and predetermine the mental manifestations even more than the relative size of the organs.

EACH TEMPERAMENT gives its own tone, cast, and quality to the several Faculties. Thus the vital or broad gives the planning, common-sense phase of action to Causality, that of adapting ways and means to ends, and reasoning on matter; whereas, the same amount of this Faculty, with the mental or nervous predominant, manifests itself in logic, metaphysics, investigation, the origination of ideas, intellectual clearness and power, &c. Examiners require the sharpest eye and clearest head to discern the bearings and influences of these temperamental and organic conditions on the intellectual and moral manifestations; and the mistakes of amateurs, of connoisseurs even, are more temperamental than phrenological.

ALL FORMER phrenological writers seem to the Author neither to have appreciated the influence of the Temperaments on character, nor given the best classification of them possible. The following is about all they say on this point:—

“THE TEMPERAMENTS indicate, to a certain extent, important constitutional qualities. There are four, accompanied by different degrees of strength, in the brain—the *lymphatic*, sanguine, bilious, and nervous. They are supposed to depend upon the constitution of particular systems of the body; the brain and nerves being predominantly active from constitutional causes, seem to produce the nervous; the lungs, heart, and blood-vessels being constitutionally predominant, give rise to the san-

guine; the muscular and fibrous systems to the bilious, and the glands and assimilating organs to the lymphatic.

"THE DIFFERENT Temperaments are indicated by external signs, which are open to observation. The first, or *lymphatic*, is distinguishable by the round form of the body, softness of the muscular system, repletion of the cellular tissue, fair hair, and a pale skin. It is accompanied by languid vital actions, and weakness and slowness of the circulation. The brain, as a part of the system, is also slow, languid, and feeble in its action, and the mental manifestations are proportionally weak.

"THE SANGUINE Temperament is indicated by well-defined forms, moderate plumpness of person, tolerable firmness of flesh, light hair inclining to chestnut, blue eyes, and fair complexion, with ruddiness of countenance. It is marked by great activity of the blood-vessels, fondness for exercise, and an animated countenance. The brain partakes of the general state, and is vigorous and active.

"THE FIBROUS generally, but inappropriately, called the bilious Temperament, is recognized by black hair, dark skin, moderate fullness and much firmness of flesh, with harshly expressed outline of the person. The functions partake of great energy of action, which extends to the brain; and the countenance, in consequence, shows strongly-marked and decided features.

"THE NERVOUS Temperament is recognized by fine and thin hair, thin skin, small, thin muscles, quickness in muscular motion, paleness of countenance, and often delicate health. The whole nervous system, including the brain, is predominantly active and irregular, and the mental manifestations are proportionally vivacious and powerful." — *Combe's System of Phrenology*.

"IT IS IMPORTANT, in a physiological point of view, to take into account the peculiar constitution or Temperament of individuals, not as the cause of determinate Faculties, but as influencing the energy with which the several organs act. Their activity, generally, is diminished by disorder in the functions of vegetative life, and it is favored by the sanguine, and still more by the nervous constitution." — *Spurzheim*.

THIS IS ABOUT ALL these phrenological fathers say about the Temperaments, except that Combe copied the above description from Spurzheim's, and illustrated it by engravings. The Author considers the effects of the various temperamental conditions upon the mental manifestations as greater than any of his predecessors. They merely mention it, while he considers it fundamental, and more determinative and significant of the character than even the relative size of the organs. Still, the respective Temperament of each individual acts on *all* his organs *alike*. That is, that Temperament which renders *any* of a man's organs sluggish, or active, or powerful, or flashy, renders them all *equally* so, and hence in no way countervails the effects of his Phrenology. It *modifies* his Faculties, but modifies them all *alike*.

Force of a given size will resist much more powerfully with an energetic than with a sluggish Temperament, yet so will all the other Faculties; so that the relative size of the organs in every person admeasures their relative power of function in that *same* person, though, to compare this power in him with its power in another, the examiner must take into account the influence of the Temperaments of each on all their Faculties.

LYMPHATIC, sanguine, bilious, and nervous seem to the Author both inadequate and insignificant, as descriptions of either the Temperaments, or their effects on the mental manifestations. Their name should *describe* them, which these old names do not. Each is founded on the predominance of a specific *class* of the physical organs, which this name should also designate, but which these old names do not. And we very much doubt the existence of anything analogous to the lymphatic Temperament, which we think a *diseased* state, not a normal. We recognize three Temperaments, which correspond quite nearly with the bilious, sanguine, and nervous, yet claim some improvement in describing their effects on character.

DR. WILLIAM BYRD POWELL has written on the Temperaments with not a little flourish, but we confess ourselves incompetent to understand his divisions and descriptions of them; the difference, for example, between his bilious and sanguine, while most of his engravings seem to be puffs of personal friends. We had expected scientific advancement, but did not find it. Yet ours may be the fault.

FORM thus obviously becomes the true basis for temperamental classification. Shape is as character;⁴⁵ Temperament is as character. Then why should not the Temperaments be named and described from those *forms* which accompany them, and are conferred by them? They should. At least we make the attempt, confident of our ability to give readers a better basis for reading character from the Temperaments by this method than by the old.

ONE SYSTEM of the bodily organs is what we mean by a Temperament, and the predominance of its set of organs over the others, we denominate the predominant Temperament. Thus THE VITAL organs, those within the trunk, or the lungs, heart, stomach, liver, bowels, &c., which manufacture vitality, constitute one system, and attains one end, which we denominate the vital, the

predominance of which gives breadth to the entire form. THE MOTOR organs, or bones and muscles, constitute a second system, which accomplishes another great end, its predominance giving prominence of form and power of function, and is therefore christened the motive, or powerful Temperament. THE BRAIN and nerves constitute a third system, which executes a third distinctive life-mission, the mental; its predominance, creating intense mental activity, along with sharpness of form, and is therefore called the mental, or sharp Temperament. Or, they might probably be christened the broad, prominent, and sharp Temperaments.

READER, is not this a temperamental classification easily understood, because based in a natural division of the bodily organs, besides embracing them all, except the reproductive, which is, as it were, a bodily appendix? Each executes a distinct life-work, while its predominance gives a clearly defined tone and cast to all its manifestations. May we not, as regards the Temperaments, justly "report progress?"

REMEMBER distinctly, while studying the following descriptions, that none of these Temperaments are or ever can be pure and unmixed. No person can exist without having some of all of them; so that the descriptions of their combinations alone can disclose a given person's character. Still we describe, as nearly as is possible, each Temperament alone, that readers may the better identify the proportions in which each enters into the organizations of the persons observed.

55. — THE VITAL TEMPERAMENT: ITS DESCRIPTION, AND COMBINATIONS.

THE VITAL TEMPERAMENT supplies vitality to the organs; furnishes the entire system with that *vis naturæ*, or vital force required to carry on the life process; and is its first and most important prerequisite. Formation begins in this apparatus. Break an egg at its larger end after it has been incubated three, four, or more days, and you will see its circulatory system formed, and heart palpitating; its yolk furnishing the nutrition required. In the human being, also, formation begins at the heart, runs along up to the base of the brain, and thereby deposits and organizes the materials which form the balance of the body. It is the most

active during childhood ; is the source of all power and energy ; sustains the entire animal economy ; creates animal warmth ; resists cold and heat, disease and death ; resupplies the muscles, brain, and nerves, with that life-power expended by their every exercise ; and is to man what fuel, water, fire, and steam are to steam machinery, the *primum mobile*, and first great prerequisite of life itself, and all its functions.

ITS PREDOMINANCE gives a brawny, stocky form ; a deep, broad, capacious chest ; red, or sandy, or chestnut hair ; a portly, fleshy physiology ; a short and broad build instead of long, and roundness rather than prominence ; a head steep behind and before, and well developed throughout its base, and especially in Love, and the organs of the animal propensities ; full cheeks and jowls, and a rapid widening of the face from the corners of the eyes and mouth outwards and backwards ; shoulders set well back ; erectness ; a side head spherical, and well filled out ; a forehead square and broad, rather than high ; perceptive large ; round and short build ; broad and deep shoulders ; and all the organs short and broad ; and entire organism built on the oval and stocky rather than angular or elongated principle.

BREADTH of organism throughout, obviously consequent on that capacious chest necessary to contain its large vital organs, always accompanies and admeasures it. It supplies a great amount of digested materials, all of which ample and highly convoluted bowels extract, and turn its unused surplus left dammed up there, on the back-water principle, into fat, which is only nutrition stored up against future need, and packed away in all parts of the system ; causing grossness, obesity, inflammation, gout, and tendency to apoplexy. What is improperly called

THE LYMPHATIC Temperament, which is no temperament at all, but a state and sign of disease, is created by Nature turning a part of this fat into water, in order to excrete it through the skin and kidneys ; which, when retained, causes palor, sluggishness, languor, and even downright laziness of mind and body. Fat with pallor signifies prostration ; but with *redness*, that the system is *consuming* this surplus. The practical difference between being fat and pale, or fat and rosy, is heaven-wide, and its cause here explained.

EXTRA LARGE ABDOMENS signify a clogging of all the life functions from surplus aliment, and are much less favorable to effi-

ciency of mind and body than those medium in size. Better with them even extra small than large. Men rarely make much of a mark after becoming "pussy." "Stout" persons are much less efficient than lean. Brutus feared Cassius on account of his leanness.

"Would he were *fatter*, but I fear him not;
Yet if my name were liable to fear,
I do not know the man I should avoid
As soon as that spare Cassius."
"Such men are never at heart's ease
While they behold a greater than themselves,
And therefore are very dangerous."

SHAKESPEARE.

STOUT AND HEARTY persons eat more food than they use up, and should eat less, or else work brain or body, or both, more. Even stout persons who eat lightly, over eat; because their excellent digestive apparatus extracts more nutrition from that little than they consume.

BREADTH OF NOSE usually accompanies this temperament, because it indicates large passage-ways to the lungs, and therefore large lungs and vital organs, and this, great strength of constitution, and hearty animal passions, along with selfishness; for broad noses, broad shoulders, broad heads, and large animal organs go together. But when the nose is narrow at the base, the nostrils are small, because the lungs are small, and need but small avenues for air, which indicates a predisposition to consumptive complaints,⁸⁶ along with an active brain and nervous system, and a passionate fondness for literary pursuits.

ENTHUSIASM, warmth, impulsiveness, ardor, irritability, not in temper merely, but in all else, is the specific tone and cast of action imparted by its predominance to all the life manifestations.

BACCHUS furnishes an excellent illustration of both* this form of body, and its accompanying cast of character.

WILLIAM G. HALL furnishes an excellent sample of its predominance, a form seen in every-day life, and especially among rich business men. It predominated in James Fisk, Jr., the R. R. world robber, and the impersonation of selfishness and sensuality.

LARGE. — Those in whom it is large* are whole-souled, hot-

* Hereafter, "Those in whom it is" will be omitted, presupposing that the clause is "understood."

blooded, hearty, hasty, impetuous, impulsive, fiery, as quick as a flash to feel, perceive, and do; provoked and pleased instantly

THE VITAL TEMPERAMENT LARGE



NO. 47. — WILLIAM G. HALL.

and easily, yet soon over; variable in temper, like April weather; restless; fond of out-door exercise, fresh air, good living, condiments, stimulants, and animal pleasures generally; have a strong, steady pulse; large lungs and nostrils; a full habit; florid complexion; flushed face; light or sandy hair or whiskers; sound and well-set teeth; great endurance of privation and exposure; rarely ever feel fatigue, and when they do, soon rest out; recuperate readily after sickness and exhaustion; sleep soundly; eat heartily; digest well; often suffer from heat, but rarely from cold; love to knock around on foot, yet can illy endure confinement; love to keep doing, yet hate right hard muscular labor, but pitch right in with might and main when they do take hold; have great zeal, ardor of desire, and more practical common sense than book-learning; more of general knowledge of men and things than accurate scientific attainments; more shrewdness

and off-hand talent than depth ; more availability than profundity ; and love of pleasure than power of thought ; are best adapted to some stirring occupation, and enjoy motion more than books or literary pursuits ; have great power of feeling, and thus require much self-control ; possess more talent than exhibit to others ; manifest mind more in business, creating resources, and managing matters, than in literary pursuits, or intellect as such ; turn everything, especially bargains, to good account ; look out for self ; get a full share of what is to be had ; feel and act out "every man for himself," and are selfish enough, yet abound in good feeling ; incline to become agents, overseers, captains, hotel-keepers, butchers, traders, speculators, politicians, public officers, aldermen, contractors, &c., rather than anything requiring steady or hard work ; and are usually healthy, yet very sick when attacked ; brought at once to the crisis, and predisposed to gout, fevers, apoplexy, congestion of the brain, &c.

FULL, — Are quite full-chested, round-built, and stocky ; red-faced, and fair-complexioned ; and built on the same general principles with large, yet are somewhat less so in degree ; manufacture all the vital force required, except in extreme cases of its consumption ; feel "up and dressed" for almost any emergency ; love animal pleasures ; have excellent constitutions, and naturally quite warm extremities ; vigorous propensities, and a full share of ardor and life zest ; are sympathetic, and quite easily and strongly affected by temptations, which should be avoided ; generally happy, and make the best of what is ; enjoy good and poor ; recuperate readily ; and can endure and accomplish almost anything desired.

AVERAGE, — Have a fair share of vital force, but none to spare ; can withstand a good deal, yet must not waste, but need to improve vitality ; can endure, accomplish, and enjoy much in the even tenor of life, but will break down under emergencies ; need all the vitality possessed, yet possess all required, except in cases of unusual taxation ; need to husband all the vital resources, yet, when they are thus husbanded, will rarely suffer for want of them ; if careless of health and constitution, are liable to lose both ; but with care can improve both perpetually up to old age ; and have a good constitution to live on, yet cannot live long on it alone, nor abuse it much with impunity.

MODERATE. — Are rather narrow-chested, apt to stoop in sitting; narrow and sunken at the cheeks; wanting in flesh; more pale than rosy; quite preinclined to consumption, dyspepsia, sleeplessness, and exhaustion; rather lack enthusiasm, zest, glow, fervor, and ecstasy; are somewhat weakly and feeble; often half prostrated by a feeling of languor and lassitude; can keep doing most of the time if slow, and careful not to overdo, liability to which is great; need much rest; cannot half work, nor enjoy either body or mind; suffer much from fatigue and exhaustion; would be glad to do, but feel hardly able to; must take life after a jigjog, so so, commonplace, every-day fashion; and would be greatly improved by cultivating the vital functions.

SMALL. — Are too weak and low to be able either to do, enjoy, or accomplish much; should both give the vital organs every possible facility for action, and also husband every item of vitality; be extremely careful not to overwork, and spend much time in listless, luxuriating ease, while nature restores the wanting vitality; and are almost dead from sheer inanition.

TO CULTIVATE. — Ascertain which of the vital organs are especially deficient, and take all possible pains to improve them; see directions for increasing the action of the heart, lungs, stomach, &c.; alternate with rest and exercise; "away with melancholy," banish sadness, trouble, and all gloomy associations, and cultivate buoyancy and light-heartedness; enjoy the present,¹⁷ and make life a glorious holiday, instead of a weary drudgery; if engaged in any confining business, break up this monotony by taking a long leave of absence, a trip to Lake Superior, California, or Europe, a long journey, by horticulture, parties, or frolicking with children; by going into young and lively society, and exercising the affections; and bringing about as great a change as possible in all the habits and associations. Especially cultivate a love of everything beautiful and lovely in Nature, as well as study her philosophies; bear patiently what you must, but enjoy all you can; and keep doing only what you can do easily, but other things than formerly, and what interests you. You should watch and follow your intuitions or instincts, and if you feel a special craving for any kind of food or pleasure, indulge it; especially be regular in sleep, exercise, eating, and all the vital functions, as well as temperate in all things; and above all, keep

your mind toned up to sustain the body. Aid your weak organs by will-power; that is, bring a strong will to aid digestion, breathing, &c., and keep yourself up thereby.⁷⁸ Determine that you *won't* give up to weakness or death, but will live on and keep doing in *spite* of debility and disease. Fight life's battles like a true hero, and keep the head cool by temperance; the feet warm by exercise; the pores and evacuations open by ablutions and laxative food; and heart warm by cherishing a love of life and its pleasures; and often gently pound and briskly rub chest, abdomen, and feet, so as to start the mechanical action of the visceral organs. Nothing equals this for revivifying dormant or exhausted vitality, and none are too poor or too much occupied to avail themselves of its aid.

TO RESTRAIN. — Those who manufacture vitality faster than they expend it, are large in the abdomen; too corpulent; even obese; often oppressed for breath; surcharged with organic material; too sluggish to expend vitality as fast as it accumulates, and hence should work, early and late, and with all their might, and as much as possible with their muscles, out of doors; should eat sparingly, and of simple food; avoid rich gravies, butter, sweets, fat, and pastry, but live much on fruits; sleep little; keep all the excretory organs free and open by an aperient diet, and especially the skin by frequent ablutions, the bath, &c.; breathe abundantly, so as to burn up the surplus carbon; sit little, but walk much; never yield to indolence; work up energy by hands and head, business and pleasure, any way, every way, but keep consuming vitality as fast as possible. Some fleshy persons, especially females, give up to indolence and inactivity; get "the blues," and lounge on rocking-chair and bed. What is wanted is to *do*, not to loiter around. *Inertia* is their bane, and action their cure. If flushed, feverish, nervous, &c., be careful not to overdo, and rely on *air*, warm bath, and gentle but continued exercise, active or passive, but not on medicines.

56. — THE MOTIVE, PROMINENT, OR POWERFUL TEMPERAMENT.

THE MOTIVE APPARATUS constitutes the second system of organs or Temperament. Motion is one of the necessary ends or functions of life. How could we move, walk, work, do, or enjoy anything without it? But with it, how much! How, without it,

could we even breathe, digest, circulate the blood, or execute any other function? ¹⁴⁶

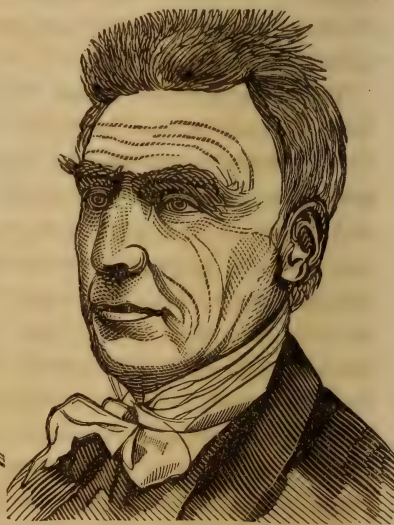
THE MOTIVE TEMPERAMENT executes all bodily motion, internal and external; gives the body its framework and consistency; is to it what their timbers are to ships; and mainly creates its form. We shall describe it under the head of the organ of motion. ¹⁴⁵⁻¹⁴⁹ Those in whom it is —

LARGE — Are large-framed; of good size and height; large-boned; muscular and athletic; and rather spare and lean than

MOTIVE OR MUSCULAR TEMPERAMENT PREDOMINANT.



NO. 48.—ELIAS HICKS.



NO. 49.—REV. ALEXANDER CAMPBELL.

plump or fat; have high and large cheek bones; large and broad front teeth; strongly marked features; a large, prominent, and Roman nose; a strongly marked, expressive face; distinctly marked bones, muscles, and blood-vessels; large joints; hard flesh; deeply furrowed and strongly marked visages, and singular countenances; great muscular power, and physical strength; extraordinary toughness and hardihood of constitution, so that they can do and endure almost anything; great ease of action; dark or black skin, hair, and eyes; abundance of coarse, stiff, and often bushy hair, and a heavy beard, if a man; strong and powerful, though usually slow movements, like those of the draught horse;

and a tough and powerful organism throughout; in short, a full-blooded Ajax.

THE HEAD is usually rather high and long, than narrow, rising high at the crown, and projecting well forward over the eyes, and behind the ears; broad and prominent just behind the ears, and rising high above them; and prodigious in Firmness, Force, and the Perceptives.

BILIOUSNESS and disorders of the liver and stomach are supposed to accompany this temperament, and hence its old name; but our observations indicate that it is the strongest, toughest, and hardest of organisms; a literal sole-leather Temperament, able to endure any amount of exposure with comparative impunity.

SUCH IMPOSE usually on their constitution because so hardy. They have learned to do so by this very impunity. Yet when thus emboldened, they really outrage the health laws past even *their* power of endurance, for years, their resisting power finally gives way for the time being, to throw off its accumulated load of disease, when their disease and constitution grapple in fierce conflict, the very inherent constitutional power rendering it all the more desperate; so that one or the other must conquer soon. If such will only let their constitution alone to grapple single-handed with their diseases, it will triumph; else it would grapple less fiercely; yet their well-meant aids often prove fatal. For such, the "Let-alone-cure" is both by far the best of all the cures, and sufficient; whereas a "dose of calomel" often breaks them down for ever after. They do not need it.

HOMELY, OUTLANDISH FEATURES also usually accompany great power of muscle, mind, and character; and for this precise reason, that this powerful, fibrous texture makes both powerful bones, and these powerful, prominent, projecting features. Talented men are rarely handsome. A handsome, pretty man may well be prouder of his body than intellect.

GREAT NOSES are consequent on great bones, and indicate a predominance of this Temperament, with corresponding power of organism and character. Bonaparte chose for his marshals men having great noses, and mankind have come to associate great power of mind and character with great noses; not because great noses create greatness, but because this powerful motive organization causes both. They indicate a martial spirit, love of

debate, resistance, and strong passions; while straight, finely-formed Grecian noses indicate harmonious characters. Seek their acquaintance. We have chosen our illustrations from the nose, because it is easily observed.

GREAT CRIMINALS also often have great noses, and those great in any and all departments of human life. Great noses only signify great power; other conditions determine its direction.

BROAD NOSES signify a predominance of the vital Temperament thus: Noses are rendered broad by large nostrils. These, when large, signify large passage ways to the lungs, and therefore large lungs and visceral organs generally, on that homogeneous principle already presented;⁵³ while narrow noses signify small avenues for respiration, because moderate-sized lungs require only smaller air tubes, and therefore weak vital organs, and a tendency to consumption and visceral diseases generally.⁸⁶

THE MOTIVE TEMPERAMENT PREDOMINANT.



NO. 50. — ADMIRAL FARRAGUT. NO. 51. — GENERAL SHERMAN. NO. 52. — GENERAL MEADE.

IN COMMODORE FARRAGUT AND GENERALS SHERMAN AND MEADE, it is unusually developed, all of whom made their potentiality felt. We shall have more to say of them hereafter. Both also have large noses; as has Hicks, who wielded tremendous moral power.

GENERAL MEADE has this Temperament, along with that power it confers, yet was rather slow, and but for his undue caution would doubtless have completely crushed out his antagonist. At

least, he furnishes an excellent sample of this Temperament. Lord Brougham, farther on, is its best sample.

THE LADIES generally get their tender hearts broken by homely, outlandish-looking men. If I wanted to "smash female hearts" by the dozen, and be "a stunner," I should prefer to be "as homely as a hedge fence." This *fact* none will deny. *Why* is this true? Because woman loves *power* in men above all other attributes; and therefore instinctively worships homely men, because they are powerful, efficient, highly magnetic, and charming.³⁵⁴ Those in whom this Temperament predominates —

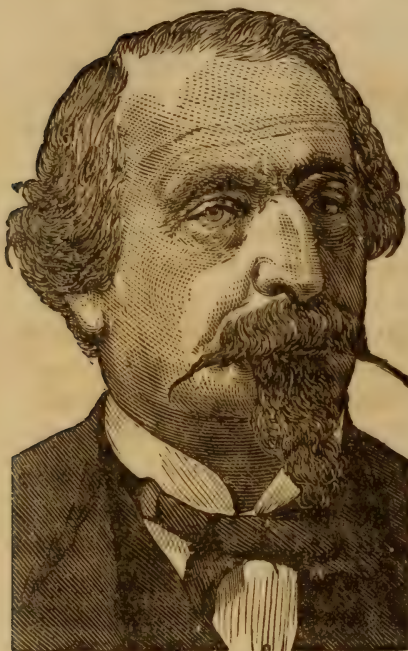
ARE POWERFUL in character; efficient; thorough-going; forcible; strongly marked and peculiar, if not idiosyncratic; determined and impulsive, physically and mentally; evince power and efficiency in whatever is undertaken; are like a fire made of anthracite coal, slow to kindle, and giving off but little blaze and smoke, yet pouring out the penetrating heat, and lasting; slow and hard of provocation, but once thoroughly roused, are unforgiving, and rarely ever "make up;" pursue opponents with relentless pertinacity; are cool, brave, persistent, inflexible, seemingly insensible to pain and hardship; self-willed; authoritative; natural leaders among men; endure any amount of hard work, mental and physical; and have powerful desires and passions, and an immense amount of force in whatever they engage; besides usually undertaking a great deal.

THE LAST NAPOLEON had this Temperament predominant, and must have possessed no little power to have risen from "the plebes," made himself monarch of a then first-class nation, and elbowed his way among the powerful potentates of the old world, till brought to bay only by imprudently bearding U. S., and was finally overthrown by his superior, and one of the really great men of this age, backed by a powerful nation. Yet, even then, his *spent* constitution, palsied by hard work and dissipation, was the probable cause of that improvident fatuity which exposed him to attack.

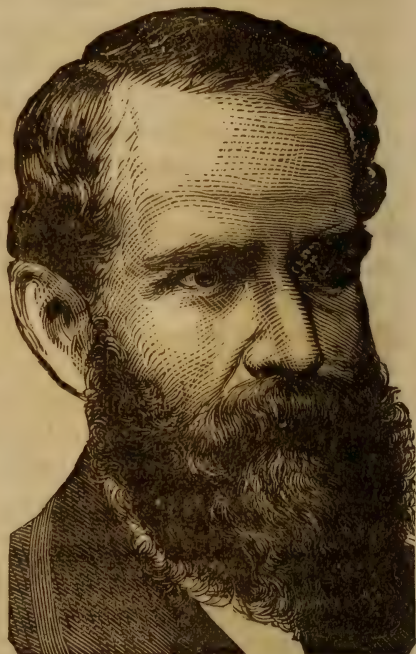
IN JAY GOULD, the wholesale Erie swindler, who probably furnished the majority of the brains of the stupendous fraud, probably the greatest ever perpetrated, and carried on the longest, who is now under suit for a TEN MILLION robbery, has this Tem-

perament in predominance, with prodigious Causality. Only one with a most powerful Temperament could have been as stupendous a villain as is Jay Gould, at least apparently.

MOTIVE TEMPERAMENT PREDOMINANT.



No. 53.—EMPEROR NAPOLEON.

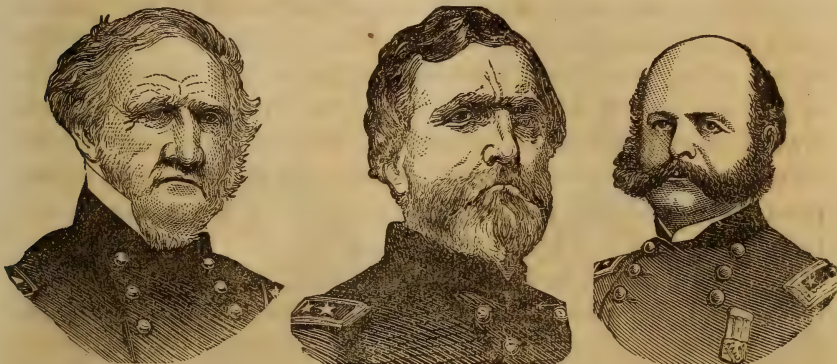


No. 54.—JAY GOULD.

MOTIVE AND VITAL LARGE*—Are both tall and broad-chested; large-boned and athletic, yet broad-shouldered and deep-chested; prominent-featured, yet fleshy; corpulent and capacious-chested, and also well-proportioned throughout; coarse-grained and rather awkward, yet very powerful; somewhat inert and slow to take hold, yet once harnessed are "a full team and a horse to let," carrying all before them; coarse-haired, coarse-grained, coarse-feeling, and strong-minded, and endowed with tremendous power, throughout; usually giant-like in stature, and in everything else; have red or sandy hair, a square, broad, heavy face, with spherical cheeks, large jowls, and a florid complexion; and are endowed with physical capacities of the highest order.

GENERALS SCOTT, POLK, THOMAS, AND BURNSIDE furnish excellent practical illustrations of this temperamental combination, particularly Scott and Polk; both tall and prominent, broad, stocky, heavy, yet not logy; giants both in mind as well as

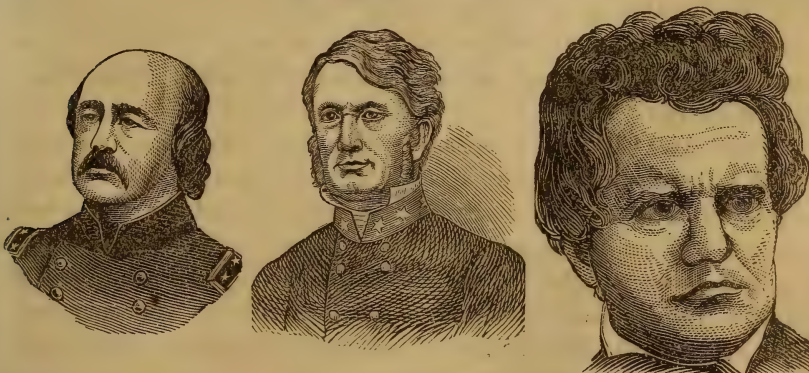
VITAL MOTIVE TEMPERAMENTS.



No. 55.—GENERAL SCOTT. No. 56.—GENERAL THOMAS. No. 57.—GENERAL BURNSIDE.

body, and organically fitted to sway great masses of men. Bishop Polk, distinguished about equally on two fields, would have accomplished more if more had been intrusted to him. Both were great men. Their Temperaments were also well-balanced, as well as powerful. All this is substantially true of Burnside and Butler.

VITAL MOTIVE TEMPERAMENT.



No. 58.—GENERAL BUTLER. No. 59.—GENERAL POLK. No. 60.—PHINEAS STEVENS.

MENTALLY — Are powerful and impulsive in all the intellectual and passionnal manifestations, and giant-bodied, headed, and hearted ; have tremendous power of feeling, and require proportional self-government ; are powerfully sexed, and easily persuaded, moulded, and tempted by the opposite sex, and should by all means seek the restraints of marriage ; are endowed with good sense, and have a good way of showing it ; are strong-minded, but possess more talents than power to exhibit them ; manifest talents more in managing machinery, creating resources, and directing large operations, than in mind as such ; improve with age, growing better and more intellectual ; accomplish wonders ; are hard to beat, indomitable, and usually useful citizens, but endowed with strong passions when once roused ; and capable of being deeply depraved, especially if given to drink.

PHINEAS STEVENS had this Temperament, with a good share of the mental, and was one of the best of Lowell mechanicians and mill builders.

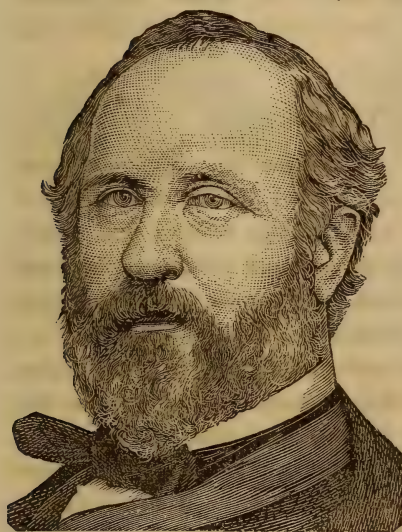
MOTIVE FULL — Are like motive large in kind, though less so in degree ; have a full share of the hearty, impulsive, enduring, efficient, and potential ; move right forward with determination and vigor, irrespective of hinderances ; and bring a great deal to pass ; can work hard, but are loath to begin ; with vital large, are too fleshy to be nimble or easy motioned, and rather too fat and trudging to love much hard work, yet will feel the better by working harder than they incline to ; love a life of ease and pleasure, but shirk muscular labor, except when driven to it, yet can then accomplish great things : with vital moderate, are rather prominent featured and spare built, and more active than enduring, and liable to overdo, because power and action exceed sustaining energy.

TWEED AND CONNOLLY, of tax-robbing notoriety, compared with whose stupendous rascalities all ever before perpetrated are utterly insignificant, who successfully fleeced yet resisted the shrewdest business men on earth, have this same organism ; and it certainly required immense stamina to concoct and engineer such really gigantic impositions on nearly two millions of the sharpest, shrewdest, most self-protecting citizens on earth. We shall mention their phrenologies hereafter.

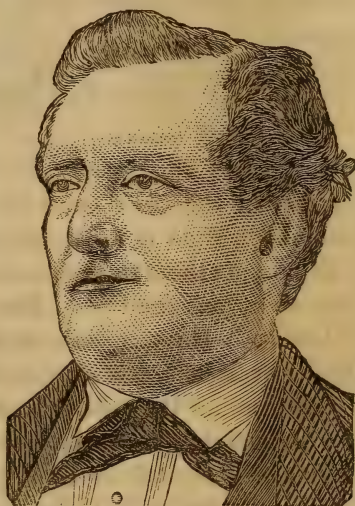
AVERAGE — Have only fair to middling muscular power and en-

duration; are not deficient in strength and stamina of body and mind, yet more would be better; prefer business to labor, and the sedentary to the active, and avoid right hard work, mental and physical. With the vital large, love ease a great deal better than work; have only fair strength, yet are sparing of that; manufacture more vitality than consume, and hence are rather fleshy and sluggish; when wrought up by strong motives can put forth a great deal of effort, but it will be spasmodic, and need to be "whipped up," yet the power is there.

THE VITAL MOTIVE TEMPERAMENT PREDOMINANT.



No. 61. — WILLIAM M. TWEED.



No. 62. — RICHARD B. CONNOLLY.

MODERATE—Have bones and muscles rather inferior in size and efficiency; are quite short of stature, and deficient in power and stamina, mental and physical; need much more exercise than inclined to take: with the vital full or large, are rather short, fat, round, and stocky; light, sandy, or chestnut-haired; would be rendered a great deal the better and happier by more muscular exercise; have gushing, impulsive, hot-blooded feelings, but they are short-lived, ephemeral, transient, and flashy; and may do well "on the spur of the moment," yet cannot and will not put forth long-continued and sustained or powerful efforts of any kind.

SMALL—Walk, work, move, and use muscles only when obliged

to; preincline much more to the sentimental than potential; and need to take all the exercise endurable, and much more than is agreeable. With the vital large, preincline to fat; and with the mental moderate, are downright indolent and lazy.

To CULTIVATE, take all the muscular exercise you can well endure, so as to divert action from the other functions to this, and practise daily lifting or dumb-bells exercise and work; walk, travel, dance, anything for action, but something, and try to enjoy it.

To RESTRAIN, work less, and turn the current of action upon other objects. This restraint is necessary only when the muscles consume much more than their proportion of time and vital force.

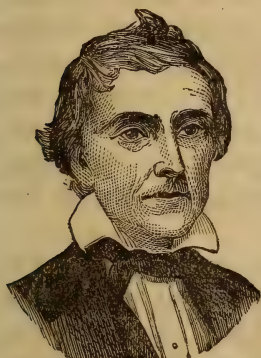
57. — THE MENTAL TEMPERAMENT.

BRAIN AND NERVES create this Temperament. It is the most important of all, because it carries forward by far the greatest number of the chief ends of life, namely, the mental and sentimental.¹⁸ With it weak, the others are almost valueless, because it alone puts them to practical account. Its production is thought, sensation, and emotion. For its structure and functions, see ³⁷.

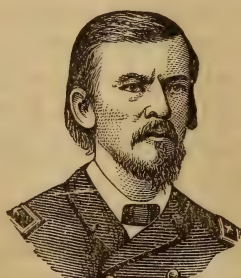
LARGE — Have a stature larger or smaller, and a complexion lighter or darker, according to the other Temperaments, because this predetermines the quality mainly; are sensitive and susceptible in the highest degree, and in children precocious; are strongly pre-inclined to mental or literary pursuits, and have a most active intellect, along with the utmost pathos and intensity of feeling. But its characteristics depend almost wholly on its combinations with the other Temperaments. Smallness of stature and sharpness of feature are its physical characteristics, and acuteness of feeling and intellect its mental.

SHARPNESS, signifies intensity. The needle is sharp and penetrating. Sharp noses always, and everywhere, indicate premium scolds, who require and evince the utmost fervor of feeling and passional intensity. Yet a premium scold is *therefore* a premium lover, scholar, worshipper, &c., as well as antagonist; because this sharpness of form indicates the utmost fervor, glow, and snap in *all* the functions, mental and physical. Weasels are *sharp* as well as long, while turtles are blunt as well as inert.

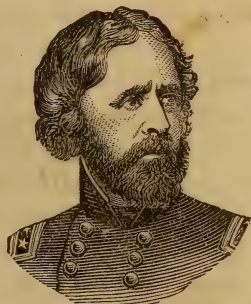
SHARP NOSES indicate a quick, clear, penetrating, searching, knowing, sagacious mind; warmth of love, hate, generosity, moral sentiment — indeed, positiveness in everything; while blunt noses indicate and accompany obtuse intellects and perceptions, sluggish feelings, and a soulless character.



No. 63. — A. H. STEPHENS.



No. 64. — GENERAL SIGEL.



No. 65. — GENERAL FREMONT.

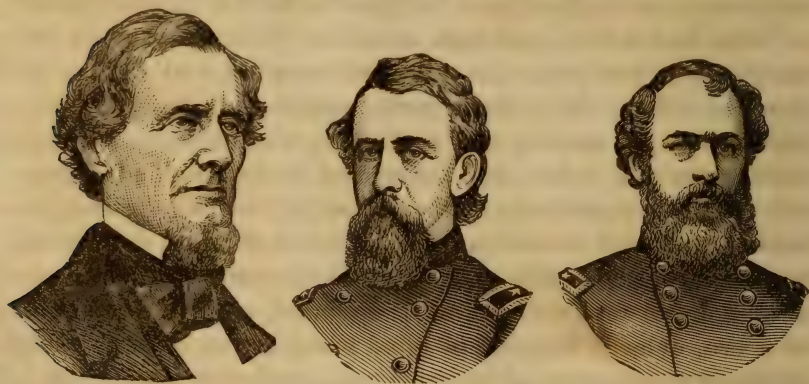
A. H. STEPHENS AND GENERALS SIGEL AND FREMONT furnish most excellent illustrations of as pure a mental Temperament as we often find in men, and each manifests its accompanying mentality in a high degree. As a cogent speaker, and a clear and powerful writer, Stephens is rarely surpassed. Indeed, he was accredited with shaping and controlling the policy of his young nation from first to last, and has written by far its ablest defence; and Sigel has few equals in the *science* of warfare, besides possessing that quick mental perception, which saw and did instantly the best thing possible under all the circumstances, thus often turning defeat into victory; while Fremont, small of stature, yet all nerve, evinced that cast of mind which accompanies this Temperament in a species of intuition and inspiration it created. I once told him that this gave him his success, to which he fully assented.

LENGTH AND ACTIVITY go together. A long stick bends easier than a broad one. There is that in length of structure which facilitates flexibility and ease of action; while breadth of form naturally promotes resistance, self-protection, and immobility. These organic principles govern all forms of life, vegetable, animal, and human. All long-favored animals are rendered easy-motioned

and limber-jointed by the very nature of their shape, besides always being the most sprightly and quick-motined. Race-horses are always tall and long-bodied, while short and broad Norman horses are better for draught than speed. Deer, moose, elk, gazelles, antelopes, giraffes, kangaroos, in contrast with bears, swine, and elephants, illustrate this law; as do greyhounds in apposition with mastiffs and bulldogs; weasels and minks in contrast with woodchucks; squirrels and foxes with opossums; cats, and indeed all felines, with bulls and buffaloes; serpents and eels with turtles and catfish; horses with oxen, and cranes and swallows with geese and turkeys. In fact, throughout the animal kingdom, length indicates agility and fleetness, and breadth the trudging and stiff-jointed.

TALL AND SPARE PERSONS are accordingly more sprightly and agile, limber-jointed and easy-motined, than short and stocky ones. All easy walkers are long-favored and tall. Can or cannot long-handed, armed, and fingered persons play on the piano, which requires quickness of motion, more dexterously than short? Let

THE LONG-FAVORED OR ACTIVE FORM.



No. 66.—JEFF. DAVIS. No. 67.—GENERAL TERRY. No. 68.—GENERAL GILLMORE.

facts, on the largest and most varied scale be the umpire, and let the very philosophy and fitness of things show *why*. Reader, these forms, the broad as signifying the vital, the prominent as indicating power, and the sharp as accompanying zeal and fervor, *mean* something; and, with their combinations, furnish a *scientific* index of their corresponding physical and mental specialties.

DAVIS, TERRY, AND GILLMORE have this form of body and head, along with the motive, and their incessant work evinces the corresponding quality. They combine a full share of power, with predominant activity and earnestness. Their physiology is quite alike, yet their phrenologies differ greatly, of which, hereafter. Incessant work, especially mental, always accompanies this Temperament, particularly mental action.

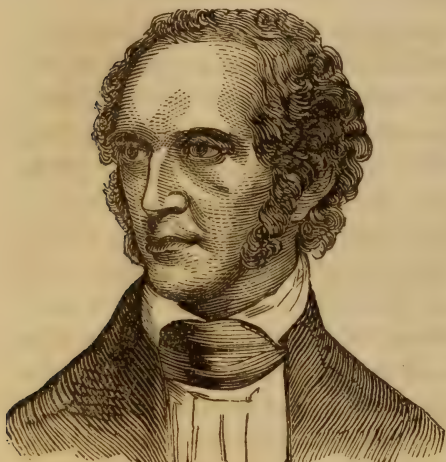
LARGE — With motive large and vital full or average, are full-sized; large, and prominent-featured, but rather spare built; quite tall and long-favored, but rather thin and narrow-faced; have distinct lines of the face, prominent joints, strongly-marked features, a large and projecting chin, nose, and cheek bones; good-sized hands and feet, brown hair, inclining to the sandy in proportion as the vital abounds, but to the flaxen as the mental predominates; are quite broad across the shoulders, yet flat-bodied rather than deep or round; deep-chested, because all the bodily organs take on the long form instead of round; slim in the abdomen, because all the life forces and materials are seized and consumed as fast as eliminated; have a firm and distinct muscle; a tough, wiry, excellent physical organization; a firm, straightforward, rapid, energetic walk; great ease and efficiency of action, with little fatigue; a keen, penetrating eye; large joints, hands, feet, &c.; a long head and face, and a high forehead and head; a brain developed more from the nose over to the occiput than around the ears; large intellectual and moral organs; strong desires, and great power of will and energy of character; vigorous passions; a natural love of hard work, and capacity for carrying forward and managing great undertakings; that thorough-going spirit which takes right hold of great projects with both hands, and drives into and through thick and thin, in spite of obstacles and opposition, however great, and thus accomplishes wonders; superior business talents; unusual strength and vigor of intellect; strong common sense; good general judgment; with a large intellectual lobe, and a cool, clear, long, calculating head; a reflective, planning, discriminating cast of mind, and talents more solid than brilliant; more fondness for the natural sciences than literature; and for philosophy than history; and the deep, solid branches than belles-lettres; a professional and mental than laborious vocation; mental than bodily action; and the moral than sensual.

WILLIAM CULLEN BRYANT furnishes an almost perfect illustration of both this Temperament, and its cast of manifestation.

HARD, STEADY WORK, mental and physical, but most mental, is its special accompaniment. The mental gives activity, while

THE MENTAL-MOTIVE OR WRITING TEMPERAMENT.

THE WRITING TEMPERAMENT.



No. 69. — WILLIAM CULLEN BRYANT.



No. 70. — RALPH WALDO EMERSON.

its motive imparts power, and the two keep the vitality so closely worked up that it never clogs; yet the full vital furnishes sufficient materials and vital force for all practical purposes. It is by far the most efficient of all the Temperaments, yet preinclined to overdo.

THOUGHT WRITERS and speakers, and those who make their mark directly upon the intellects and inner consciousness of mankind, generally have this organic cast. It is pre-eminently the organism for writers on science, and for reviewers. Their thoughts are most impressive, and style, mode, and manner of expression are peculiarly emphatic.

REFERENCE is not now had to flippant scribblers of exciting newspaper squibs, or even of dashing editorials, or highfalutin productions, nor to mere compilers; but to the authors of deep, sound, original, philosophical, clear-headed, labored productions. It predominates in Revs. Jonathan Edwards, Wilbur Fiske,

N. Taylor, Dr. E. A. Parke, Leonard Bacon, Albert Barnes, Oberlin, Pres. Day, R. W. Emerson, Drs. Parish and Rush, Pres. Hitchcock, Hugh L. White, Dr. Caldwell, Elias Hicks, Franklin, Alexander Hamilton, Chief Justice Marshall, Calhoun, John Q. Adams, Percival, Noah Webster, George Combe, Lucretia Mott, Catherine Waterman, Mrs. Sigourney, and many other distinguished authors and scholars.

RALPH WALDO EMERSON furnishes a perfect model of this writing organism, and his writings tell their own story. We have no one pure *thought* author who excels him in the condensed energy, the breadth and pith of his thoughts, and the logical and forcible style in which he presents them. Look on his Temperament and pages for mutual correspondence.

THIS Temperament indicates the utmost of toughness and power of endurance. "A lean horse for a long pull," is but its proverbial expression.

THOSE LONG, SHARP, AND PROMINENT, are just as quick as a flash to perceive and do; agile; light-motioned; limber-jointed; nimble; always doing; restless as the wind; talk too rapidly to be emphatic; have no lazy bones in their bodies; are always moving head, hands, feet, something; are natural scholars; quick to learn and understand; remarkably smart and knowing; loving action for its own sake; are wide awake; eager; uncommonly quick to think and feel; sprightly in conversation; versatile in talent; flexible; suggestive; abounding in idea; apt at most things; predisposed to consumption, because action exceeds strength; early ripe; brilliant; liable to premature exhaustion and disease, because the mentality predominates over the vitality; clear-headed; understand matters and things at the first glance; see right into and through business, and all they touch, readily; are real workers with head or hands, but prefer head-work; positive; the one thing or the other; and are strongly preinclined to the intellectual and moral. Their characters, unless perverted, like their persons, ascend instead of descending; and they are better adapted to law, merchandise, banking, or business, than to farming, or heavy mechanical work. Yet, if mechanics, should choose those kinds requiring more sprightliness than strength, and mind than muscle.

STONEWALL JACKSON was a perfect example both of this Tem-

perament, and of its special characteristics. More efficiency and executive energy accompanies it than any other whatever. Allowed my choice of all the Temperaments, this would have my decided preference, even over one perfectly balanced; because this gives more snap and character, and combines tremendous power with equal action. The vital gives flashy impulsiveness, while this gives *sustained* zeal, what we might call perpetual impulse, a *lasting* excitability. When passion takes the reins in such, it literally runs riot; but so does the good. Such organisms *make their mark* somewhere. If Jackson had lived, the southern confederacy would have lived. His zeal and power united, would have given it victory.

THE LONG AND PROMINENT, OR ACTIVE AND POWERFUL.



No. 71. — STONEWALL JACKSON.



No. 72. — GEN'L ROSECRANZ.



No. 73. — GEN'L HOWARD.

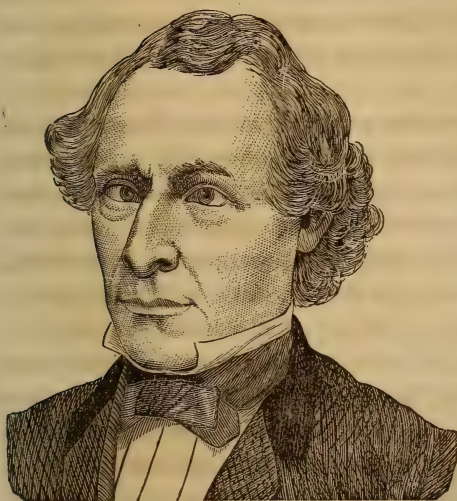
ROSECRANZ had a kindred temperament, with less zeal, and managed admirably till the last, when he failed, probably because the long strain his nervous system was obliged to sustain finally became too great for even his constitution to endure. Yet his is a most excellent organism.

HOWARD, too, is long-favored, and prominent-featured, and unites great activity with power, and superior planning capacities to both. Few equalled him in *bringing things about*.

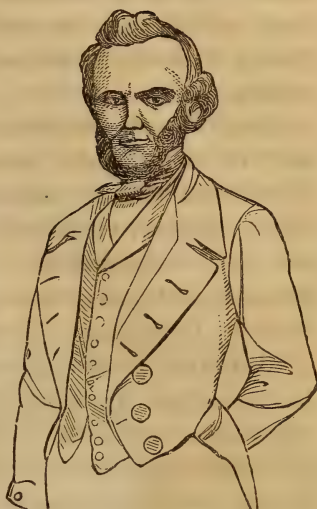
JAMES GORDON BENNETT had this organism, with its writing cast, and his style was very pithy, felicitous, and taking.

THE late Captain Knight, who had a world-wide reputation for activity, enterprise, daring, impetuosity, promptness, judgment, earnestness, executiveness, affability, and sprightliness, furnished a good example of this form, Temperament, and character, but died of overwork.

PROMINENT, LONG, SHARP, AND ACTIVE.



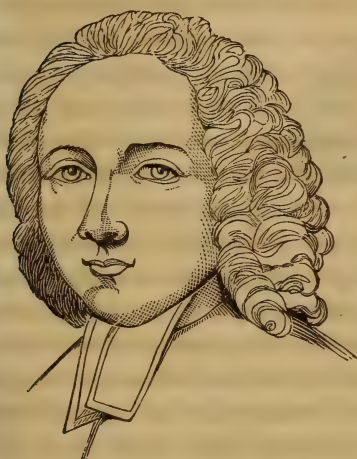
NO. 74.—JAMES GORDON BENNETT.



NO. 75.—CAPTAIN E. KNIGHT.

WITH THE MENTAL LARGE, VITAL FULL, AND MOTIVE MODERATE, have small bones, muscles, and bodies, and sharp phrenological

MENTAL VITAL TEMPERAMENT.



NO. 76.—DR ISAAC WATTS.



NO. 77.—FANNY FORESTER.

organs; are rather short, but plump and smooth in form; have short but small features, thin lips, sharp teeth, and liable to early

decay; a light, bounding walk, and by far too much intensity and activity for strength. The accompanying engraving of Fanny Forester furnishes an excellent illustration of this combination.

ISAAC WATTS furnishes a perfect example of this Temperament, and of its glowing, enrapturing cast of character. Men may differ from him in doctrine, and grumble at the brimstone cast of his poetry, yet all will concede to him the utmost glow, fervor, and emotionality. None could compose poetry thus vivid, who did not quiver throughout his whole frame with extreme intensity of emotion. He was too moody, but at least fervid.

MENTALLY; are characterized by a predominance of mind over body, so that its states affect the body more than the body does the mind; are in the highest degree susceptible to the influence of stimuli, and of all exciting causes; are refined and delicate in feeling and expression, and easily disgusted with anything coarse, vulgar, or out of taste; enjoy and suffer in the highest degree; are subject to extremes of feeling, and easily disgusted, yet intensely sympathetic; experience a vividness and intensity of emotion, and a clearness, pointedness, and rapidity of thought, perception, and conception, and a love of mental exercise imparted by no other Temperament; have a deep flow of pure and virtuous feeling, which will effectually resist vicious inclinations, with intense desires, and put forth correspondingly vigorous efforts to gratify them; are eager in pursuits, and feel that their ends are of the utmost importance, and must be answered *now*; are thus liable to overdo, and prematurely exhaust the physical powers, which are poor at best; are very fond of reading and study, of thinking and reasoning, of books and literary pursuits, of conversation, and all kinds of information, and apt to lie awake at night, thinking, or feeling, or reading; are more given to intellectual and moral than animal pleasures, and action than rest; cannot endure slow or stupid employees; and are by far too warm-hearted, impetuous, impulsive, full of soul, and susceptible to external influences; and swayed too much by feeling; and need much self-government and coolness.

POETRY AND ELOQUENCE are found connected with this Temperament more than with any other. It creates that gushing sympathy, that spontaneous overflowing of soul, that high-

wrought, impassioned ecstasy and intensity of emotion in which true eloquence consists, and transmit it less by words than looks, gestures, and those touching, melting, soul-stirring, thrilling intonations which storm the citadel of the soul. Hence it can never be written, but must be seen, heard, and felt. This sharpness and breadth produce it, first by giving great lungs to exhilarate the speaker, and send the blood frothing and foaming to the brain; and secondly, by conferring the utmost excitability and intensity of emotion; and it is in this exhilaration that real eloquence mainly consists. This sharp and broad form predominates in Bascom, whom Clay pronounced the greatest natural orator he ever heard; in Chapin and Beecher, to-day confessedly our finest speakers in the pulpit or the rostrum; in Everett; in "the old man eloquent," indeed, in both the Adamses; in Dr. Bethune and a host of others. Still, in Patrick Henry, Pitt, and John B. Gough, each unequalled in his day and sphere, the sharp combines with the long. This gives activity united with excitability. Yet this

form gives also the poetic more than the oratorical — gives the impassioned, which is the soul of both.

POETRY inheres in both the sharp and broad, and sharp and long forms. Some distinguished poets are broad and sharp, others long and sharp, but all sharp. Those who evolve the highest, finest, and most fervid style and cast of sentiment, have more of the long, with less of the prominent, yet with the long predominating over the sharp, and are often quite tall. Those who poetize the passions are, like orators, broad and sharp, of whom Byron furnishes an example in poetry and configuration,

THE TWO ELOQUENT TEMPERAMENTS.



No. 78.—HENRY WARD BEECHER.

and has well said that poetry is but frenzy of passion. The best combination of forms for writers and scholars is the sharp predominant, long next, prominent next, and all conspicuous.

BEECHER AND HENRY furnish excellent examples of these two eloquent Temperaments — Beecher of the short, sharp, and broad, Henry of the long and sharp. Gough, most eloquent, resembles Henry in being tall, spare, and angular, while Chapin, as naturally oratorical as any, is formed like Beecher and Bascom, yet Clay again resembled Henry. The different kinds of eloquence created by these seemingly opposite Temperaments are marked, yet not easily described, but coincide with the descriptions already given of the broad and short, and long and sharp organisms. The vital abounds in both. Clay and Henry were tall, yet had capacious chests, which extended low *downwards*, and were long, while Beecher's, Chapin's, and Bascom's round out at their sides. Genuine orators will usually conform to one or the other of these forms.



No. 79. — HON. RUFUS CHOATE.

RUFUS CHOATE furnishes a most excellent sample of still another eloquent Temperament, in which the mental greatly predominates, with the motive next and ample, but inadequate vital. As a jury lawyer, he was unrivalled, owing chiefly to that ecstasy of fervor and pathos of emotion created by this the most active of all the organisms.

FULL — Have good natural abilities, and, with culture, can manifest excellent talents and capacity for study; are fond of intellectual pursuits, books, the papers, &c., yet not a genius; evince more mind in native sense, good ideas, conversation, &c., than in public speaking or writing; with the vital and motive large, if in any profession must take a great amount of physical exercise; will require considerable discipline to bring out inherent mental capacities, yet with it, will do well in some mental avocation; with power and vitality average, had better adopt a business or a working life than a lit-

erary ; and are efficient and capable of accomplishing a good life work, yet not great ; with the motive large, and vital only moderate, are sufficiently sensitive and susceptible to exciting causes, yet not passional, nor impulsive ; and easily roused, yet not easily carried away by excitements ; with activity large, are very quick, but perfectly cool ; decide and act instantly, yet knowingly ; do nothing without thinking, but think and do instantaneously ; are never flustered, but combine rapidity with perfect self-possession.

AVERAGE — Have a fair share of sensitiveness, and mental vigor and activity, yet only fair, and will be what the other Temperaments may predetermine ; show a good deal of mind with education and favorable surroundings, otherwise not ; must depend for talents more on culture and plodding studiousness than on native genius ; with the motive and vital large, are far better adapted to farming, or mechanical and laborious pursuits, than to professional life, and should cultivate intellect and memory by reading, conversation, writing letters, &c.

MODERATE — Have little love of literary pursuits ; are rather dull of comprehension, and fall asleep over books, sermons, papers, &c. ; learn much better by seeing men and things than by study or reflection ; cannot marshal ideas for speaking or writing ; are like the placid lake, without waves or noise, and evince the same quiet spirit under all circumstances ; are rather phlegmatic ; slow to perceive and feel ; cold and passionless ; rarely ever elated or depressed ; neither love nor hate, enjoy nor suffer much ; are enthusiastic in nothing ; and throw little life or soul into expressions or actions.

SMALL — Are exceedingly dull of understanding ; slow of perception, and poor in judgment and memory ; hate books ; must be told what and how to do ; should seek the direction and follow the advice of superior minds, because lacking in sense ; are torpid, soulless, listless, spiritless, half asleep about everything, and monotonous and mechanical, really stupid, and about as dead and hard as sole leather — having the texture of humanity, but lacking its life and glow, and enjoy and suffer but little.

To **CULTIVATE**, exercise the mind and feelings by reading and talking on whatever subjects interest the most, such as travels, adventures, stories, novels, &c., the most ; attend lectures,

churches, literary societies, parties, &c., and make and improve all opportunities for bringing both the feelings and intellect into frequent and vigorous action; yield yourself up to the effects or influences of persons and things operating on you; seek amusements and excitements; and try to feel more than comes natural to you.

TO RESTRAIN, read, study, think, and feel just as little as possible; divert action all you can *from* the brain and nerves by directing it *to* the other parts; try to *enjoy* any, everything you can, and allow just as few painful subjects as possible to vex and prey upon your feelings; get all the "*fun*" out of life you can, and fret over nothing; seek agreeable company and pleasant associations; and exercise the physical man as much, but mental as little as possible. Cultivate stoicism, for your feelings are your consuming fire. Never read a novel, or love story, or become excited. Particular phrenological organs always accompany each Temperament, and the organs of each are exactly adapted to carry out their qualities.

THE VITAL gives large Causality, Kindness, Ambition, Vitativeness, and Force, and a head rendered broad by the predominance of the propensities.

FIRMNESS AND FORCE are always found with the motive Temperament, and are specifically calculated to put its tremendous power to practical operation. Such are always cool and courageous and have large Perceptives, with less Beauty.

THE MENTAL Temperament usually gives a high, square forehead, full temples, and a broad top head, yet rather short and depressed at the crown, or deficient in Dignity, and excessive in Ambition, Conscience, Caution, Kindness, Beauty, and Friendship — just such organs as are needed to carry out its accompanying traits of character.

58. — A WELL-BALANCED ORGANISM BY FAR THE BEST.

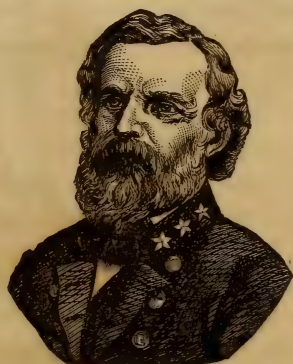
A WELL-BALANCED organism, with all the Temperaments large and in about equal proportion, is by far the best and most favorable for both enjoyment and efficiency; to general genius and real greatness; to strength along with perfection of character; to consistency and power throughout. The motive large, with the mental deficient, gives power with sluggishness, so that the powers lie dormant; when adding large vital gives great physical

power and enjoyment, with too little of the mental and moral, along with coarseness; while the mental in excess creates too much mind for the body, too much exquisiteness and sentimentality for the stamina, along with a green-house precosity most destructive of life's powers and pleasures: whereas their equal balance gives abundance of vital force, physical stamina, and mental power and susceptibility. They may be compared to the several parts of a steamboat and its appurtenances. The vital is the steam-power; the motive, the hulk or framework; the mental, the freight and passengers. Predominant vital generates more animal energy than can well be worked off, which causes restlessness, excessive passion, and a pressure which endangers outbursts and overt actions; predominant motive gives too much frame or

A WELL-BALANCED TEMPERAMENT.



No. 80. — WASHINGTON.

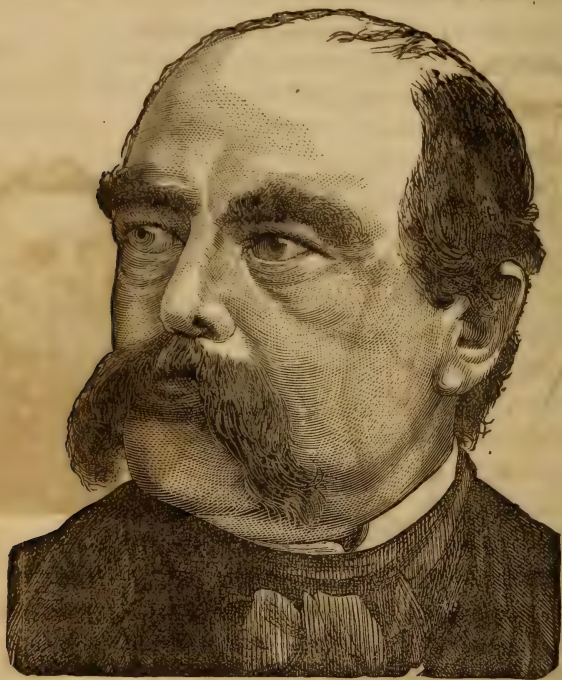


No. 81. — GENERAL R. E. LEE.

hulk, moves slowly, and with weak mental, is too light freighted to secure the great ends of life; predominant mental overloads, and endangers sinking; but all equally-balanced and powerful, carry great loads rapidly and well, and accomplish wonders. Such persons unite cool judgments with intense and well-governed feelings; great force of character and intellect with perfect consistency; scholarship with sound common sense; far-seeing sagacity

with brilliancy; and have the highest order of both physiology and mentality. Such a Temperament had the immortal Washington, and his character corresponded.

"If you are presented with medals of Cæsar, Trojan, or Alexander, on examining the features you will still be led to ask what was their stature, and the form of their persons; but if you discover in a heap of ruins the head or the limbs of an antique Apollo, be not curious about the parts, but rest assured that they were all conformable to those of a God. Let not this comparison be attributed to enthusiasm. It is not my intention to exaggerate. I wish only to express the impression General Washington has left on my mind: the idea of a *perfect whole*, brave without temerity, laborious without ambition, generous without prodigality, noble without pride, virtuous without severity."—*Marquis of Chastelling*.



NO. 82.—COUNT VON BISMARCK.

SIR WALTER AND GENERAL P. S. SCOTT, Napoleon, Franklin, Bacon, both Websters, Benton, and men of that build, tall yet broad, large in stature but well-proportioned, round built but not corpulent, stout but not obese, furnish practical illustrations of

this great development along with this balance of all the Temperaments.

MAJOR GENERAL ROBERT E. LEE was one of the finest of all illustrations of this Temperament. A powerful muscle imparted tremendous power to his organism; a fully-developed vital laboratory supplied him with all the animal force he could possibly consume, without ever any exhaustion; and a slightly greater mental Temperament turned all in a purely intellectual direction. This balance appertains equally to all his mental Faculties, and gave a comparatively perfect character throughout. Did he not make the most possible of his situation? But that he had inferior Causality and a want of this balance over him, that is, if inferior plans had not been imposed on him to execute, he would never have surrendered.

COUNT VON BISMARCK evinces this balance to a remarkable degree, though with too much of the vital. Colossal in stature; tall, yet stocky; with immense vital organs, yet powerful muscles; less of the mental than any other, but sufficient to set and keep his elephantine body in powerful action; a "round" ball, neither side the largest, and no hollows; and a giant in every department. Whom he engages in combat must fall. Such men make no false steps. They are slow, but resistless. He only needs more action.

CORNELIUS VANDERBILT evinces this same powerful, yet well-proportioned, organism. The muscular is better developed than in Bismarck; so is the mental. Bismarck has too much of the vital. Only abstemiousness can prevent its some day proving his ruin; while

Vanderbilt will work up all his surplus force, yet not overwork. Consider what he has achieved, and how hard he still works, though over seventy. Some can remember when he was poor.

MINERVA illustrates the feminine application of this perfect



NO. 83. — CORNELIUS VANDERBILT.

proportion between all the Temperaments. She was the ancients' model of the perfect woman. They could choose for their



NO. 84. — MINERVA.

patron saint in poetry and the fine arts only one absolutely faultless throughout. Here is their ideal of the most elegant female conceivable. All the Temperaments are well-developed, the muscular falling a little behind the others, as it should do in woman; and the vital mental ascendant.

STUART'S PORTRAITS of revolutionary heroes are said to represent them with large, portly, strongly-marked, and well-proportioned giant bodies, but with only average heads, and are probably true to Nature. I have

found very smart men in all departments of human life with only average-sized heads. Benton's was less than average, but his

ALL THE TEMPERAMENTS POWERFUL.



NO. 85. — BRIGHAM YOUNG.

capacity of chest was most extraordinary, in fact rarely equalled. All three Temperaments were immense in him, and well-proportioned, yet his head measured less than twenty-two inches in circumference. But his powerful vital organs like a tremendous "head" of steam or water, made all his function, on which this head was let, fairly "hum" with rapidity and power of function, while his mental Temperament turned it into a mental channel.

BRIGHAM YOUNG has this union of all the Temperaments large, yet equal. He is about six feet high, yet perfectly symmetrical, though a little way off he seems too stocky. He is broad from one shoulder to the other, yet also deep through from breast bone

to shoulder blades, and his chest runs far *down* besides. In 1843 he and most of his present apostles came *incog.* under my hands; and when I came to him, putting my hands on his immense chest, I exclaimed, "You, sir, have vital force sufficient to live a hundred and fifty years." He is very broad built, yet sharp-featured, and has a muscular system of remarkable power; besides being very florid, thus embodying all the conditions of true greatness, or tremendous power of body and mind; and only one thus organized could have accomplished what he has. His organism corrected and greatly enhanced my estimation of him. In figure he bears a close resemblance to Thomas H. Benton, and is remarkably fine-grained and delicately organized. Men great in specific *directions* will often have an outlandish look, and be homely and awkward; yet those great in *all* departments will be found to have *harmonious*, not extreme features. *Proportion* is one of the laws and prerequisites of greatness.⁶¹

SECTION III.

GENERAL INDICES OF CHARACTER.

59. — COMPLEXIONS, AND WHAT TRAITS OF CHARACTER THEY INDICATE.

COLORS INDICATE QUALITIES throughout all Nature. We prove this principle, and show what colors and characteristics go together, under Color; so that here we only describe results.

MANY physiologists classify their Temperaments mainly by the color of the eyes, hair, skin, &c., just as though the complexion or color *originated* the Temperaments; whereas it is only an effect, not a cause; and we think Combe attributes too much relatively to it as compared with the form.

BLACK indicates power, and hence generally accompanies the powerful or motive Temperament. Of this, black animals, black and grizzly bears, &c., furnish examples, as do the black races; and black fruits have a great amount of their peculiar flavors.

DARK COMPLEXIONED PERSONS generally wield a powerful influence over those with whom they come in contact; and especially over the opposite sex. Daniel Webster was appropriately called "Black Dan," and his power over men, and especially women, is well known.

Black-haired speakers carry their audiences with them, and sway them right and left, up and down, as they please. This color is very appropriate to public men, politicians, generals, &c. The light-complexioned races are much more progressive and refined than dark, and less sensual. Coarse black and coarse red hair, skin, and whiskers, indicate powerful animal passions, together with corresponding strength of character; while fine, light, and auburn hair indicates quick susceptibilities, together with refinement and good taste. Fine dark or brown hair signifies the combination of exquisite susceptibilities with great strength of character, while auburn hair and a florid countenance denote the highest order of sentiment and intensity of feeling, along with corresponding purity of character, combined with the highest capacities for enjoyment and suffering. And the intermediate colors and textures accompany intermediate mentalities. Curly hair and beard indicate a crisp, excitable, and variable disposition, with much diversity of character, now blowing hot, now cold, along with intense love and hate, gushing, glowing emotions, brilliancy, and variety of talent. So look out for ringlets; they betoken April weather. Treat them gently, lovingly, and you will have the brightest, clearest sunshine, and the sweetest, balmiest breezes; but disturb them, and you raise a storm, a very hurricane, changeable, now so very hot, now cold. Better not ruffle them. And this is doubly true of auburn curls; though but little gentle, tender treatment is needed to render them just as genial and delightful as the balmiest spring morning.

A DARK-HAIRED FEMALE is able, if disposed, to control a lover or husband as if by magic. He will be as it were spell-bound in her company, and feel that he has *got* to do as she bids and desires. If she is good, her influence in her family and circle will be supreme, yet most beneficial; but if she is selfish, she will, by hook or crook, by persuasion or force, bring all hands under her thumb. If she engages in business, she "*puts it through* by daylight," letting nothing arrest her triumphal march from conquering to conquer. If she espouses good ends, none can execute them better; if bad, none can be more successful or desperate. Laura D. Fair, of this color, illustrates its workings when wrongly directed; yet turned into good channels, no color is more desirable. Success goes with it. Efficiency is its constant companion.

BLACK-HAIRED BACHELORS usually play havoc with female hearts, breaking them right and left, and "smashing" them all to pieces, and numbers of them, especially auburn-hair tenderlings. Blondes, look out for these dark-haired charmers, or the first you know you will find yourselves dead in love, and both unable and unwilling to break their magic spell over you, or resist their persuasions. A great amount of gender usually goes along with this complexion. It generally accompanies the prominent or powerful organism.

RED HAIR AND IMPULSIVENESS generally accompany each other. Heartiness, soul, warmth, and emotionality generally go with auburn hair and blue eyes. A brunette wife will be the more independent and efficient, a blonde more susceptible, loving, clinging, tender, complying, dependent, and plastic. The latter is the easier moulded to your taste, the former will mould you to hers. If you desire refinement, taste, exquisiteness, gushing emotions, sweetness, purity, and pathos, choose the blonde; if efficiency, energy, force, and quantity, choose the brunette.

PALE BLACK indicates more burning intensity, more fierce, wild fervor of desire, and more power to do and dare, in short, more desperation than any other. It signifies the *white-heat* fervor of all the mental operations, along with great endurance.

PALLID BLONDES are rare, except where exhaustion has sapped the constitution. Florid complexions and light hair usually go together.

DARK RED, verging towards brown hair, is one of the best of colors, and signifies power with purity, strength with goodness, and sense with virtue.

FLAXEN HAIR and a light complexion, verging towards pallor, signifies quickness of perception and action, warm and gushing affections, a bright, clear mind, good, pure motives, taste, and a desirable character throughout; and is rarely accompanied with coarseness, organic or passionai.

GRAY EYES signify power in all the functions, strong and hearty passions, and vigor of intellect. If you possess them, keep yourself straight, and avoid dissipation, and you are all right; but be on your guard as to eating, drinking, and fast habits. "Touch not, taste not."

THE PRESENT STATUS of the various functions, physical and

mental, are also indicated by the temporary color. As the variable colors of the cheek for the time being indicate the existing state of the health, so they equally indicate mental health and disease, or the normal and abnormal states of the Faculties.²⁸ Existing color proclaims existing organic and mental conditions. The physiology modifies and sometimes overrules the Phrenology; or, rather, *directs* the Faculties hither and yon. Thus a good Phrenology, with a bad facial color, indicates a worse and more depraved character than a poor Phrenology with a good physiology. A nervous blonde is very irritable, hateful, and furious; yet the same woman will be as amiable and sweet as the turtle dove when her nerves are in a healthy state; because all abnormal physical states abnormalize and vitiate the mental, and especially passionate manifestations.³⁰ All physical inflammations create sinful proclivities. Men's virtues and vices depend far more on their existing *physical* states, — the states of their stomachs, nerves, liver, sexualities, &c., — than on the mere size of their phrenological organs. Or, rather, one state of the stomach, nerves, &c., throws a given set of organs into one state, while another nervous state will throw the *same* set of organs into a state of action as different as summer is from winter.

When the system is in a perfectly healthy state, the whole face will be suffused with the glow of health and beauty, and have a red, but never an inflamed aspect; yet any permanent health injury, which prostrates the bodily energies, will change this florid complexion into dullness of countenance, indicating that but little blood comes to the surface or flows to the head, with a corresponding stagnation of the physical and mental powers. Yet, this dullness frequently gives way to a fiery redness; not the floridness of health, but the redness of inflammation or false excitement, which indicates a corresponding demoralization of the mental Faculties. Dark or livid red faces, so far from signifying the most health, frequently betoken the most disease, and correspondingly animal and sensual characters; because physiological inflammation irritates the propensities more, relatively, than the moral and intellectual Faculties, though it increases the latter also. When the moral and intellectual greatly predominate over the animal, redness may not cause coarse animality; because, while it heightens the animal nature, it also increases the intellectual and

moral, which, being the larger, hold them in check; but when the animal about equal or exceed the moral and intellectual, this inflammation evinces a greater increase of animality than intellectuality and morality. Gross sensualists and depraved sinners generally have a fiery red countenance. Stand aloof from them, for their passions are all on fire, ready to ignite and explode on provocations so slight that a healthy physiology would scarcely notice them.

BLOATED DRUNKARDS AND HEALTHY CHILDREN illustrate this difference as to both complexion and character, in that the former have a dark-brown, dingy, bluish-red, or a fiery, livid color of face, along with coarse-grained sensual passions and appetites; while healthy children have bright *scarlet* red cheeks, and purity and innocence of feeling. The complexion of healthy maidens, in contrast with "women of pleasure," also illustrates this point. All abnormal mental action is vicious; and physical inflammation causes this abnormal action.³⁰ The importance of this point warrants its detailed illustration:—

FORCE large, with bright scarlet red cheeks, manifests itself in self-defence, energy, and virtuous indignation; while this organ, equally large, with a *dark* brown red face, the red diffused all over the face instead of confined to the cheeks, and of a dark, bloody, muddy hue, signifies physiological inflammation, and this its perverted, depraved action in wrath, violent fits of temper, vindictiveness, spite, malice, &c.

AMBITION, with bright red cheeks, loves praise, but has no envy or jealousy. It likes to be praised, but is willing, even glad, to see rivals praised; while this same amount of Ambition, with a *livid* red face, signifies its diseased, distorted, perverted action, which creates envy, spleen, rivalry, jealousy, &c. Two characters exactly alike phrenologically, one with dark, the other bright red, will be about as different from each other as Gabriel and Satan.

LOVE, however, furnishes our best illustration of this point. Pure, angelic, elevated, sanctifying love accompanies bright scarlet red in the cheeks, which vanishes off into pink, and then into a pure lily white; while a dark, brown, dull, bloody-muddy red, not exactly red, but a dingy, brownish red, signifies the inflamed, but animalized, state of Amativeness or lust, along with

sexual exhaustion, and that this love element has been so far debased and sensualized as to have used itself well nigh up, indicates its hail-storm, violent, frenzied action, not its pure, exalted state.

A GOOD COMPLEXION, then, is something more than skin deep; so is a poor. Who disputes that the complexion indicates existing health states? Who does not know that these very states control the temper and morals?²⁸ Who, then, but can put this and that together, and draw their own inferences? One may be justly proud of a good complexion, and ashamed of a poor; while all should try to *keep* or *make* theirs good by observing the *health laws*.

TO THUS EXPOSE so many is painful, yet imperious; but those are complimented who deserve to be. Truth is "no respecter of persons." Blame the Divine *Author* of this principle, ye who blame at all, not its expositor; and at once set resolutely about removing any stigma attached to a poor complexion by removing its physiological *cause*. Is it not strange that truths thus apparent have slumbered on thus long unobserved?

THE ESTIMATION of these states is not difficult, because given states, with these organs, produce these results; while these states, with those organs and those, produce such and such effects. Yet no part of Phrenology will tax every mental power of the examiner as will correctly weighing the various effects of existing physical states on the mental manifestations in these heads and in those.

PHYSIOGNOMY naturally embraces this point, yet its exponents have not looked and thought far enough to perceive it; nor had time enough yet to *copy* it into their *compilations*.

60. — BEAUTY, PLAINNESS, FORMS, THE EYES, INTONATIONS, NATURAL LANGUAGE, MODES OF WALKING, SPEAKING, LAUGHING, SNEEZING, ACTING, &c., AS SIGNIFYING CORRESPONDING SPECIALTIES OF CHARACTER.

BEAUTY is much more than "skin deep." Well-proportioned Temperaments create harmonious features and symmetrical, well-balanced minds; whereas those, some of whose features stand right out, and others fall far in, have uneven, ill-balanced characters; so that homely, disjointed exteriors indicate corresponding interiors, while evenly-balanced and exquisitely-formed men

and women have well-balanced and susceptible mentalities. Hence, woman, more beautiful than man, has finer feelings and greater perfection of character, yet is less powerful; and the more beautifully formed a given woman is, the more exquisite and perfect is her mentality. Nature never deceives by clothing that in a beautiful, attractive exterior which is intrinsically bad or repellent. True, the handsomest women sometimes make the greatest scolds, just as the sweetest things, when soured, become correspondingly sour, and the finest things, when perverted, become the worst. Those naturally beautiful and exquisitely organized, when perverted, become proportionally bad, and those naturally ugly-formed are naturally bad-dispositioned.

EUGENIE illustrates both this beauty of form, and harmony of character. She gave good advice, evinced no vagaries or imperfections of character, and was extremely pious and charitable, and as perfect in her mental manifestations as in her person; yet Josephine furnished even a still better illustration of this perfection of form united with a like perfection



NO. 86.—EMPERESS EUGENIE.

of character. God has not made beauty so universally overpowering to savage and civilized throughout all ages only to make game of, or entrap its honest admirers. It is as good as it looks; not a living lie. Minerva is another illustration.

HOMELY persons, however, are often excellent tempered, benev-

olent, talented, &c., because they have a few powerful traits, and also features, the very thing we are describing, namely, that they have extremes alike of face and character. Thus it is that every diversity of character has its correspondence in both the physiognomical form and organic texture.

THE EXPRESSIONS OF THE EYE convey precise ideas of the existing and predominant states of the mentality and physiology. As long as the constitution remains unimpaired the eye is clear and bright, but becomes languid and soulless in proportion as the brain has been enfeebled. Wild, erratic persons have a half-crazed expression of eye, while calmness, benignancy, intelligence, purity, sweetness, love, sensuality, anger, and all the other mental affections, express themselves quite as distinctly by the eye as voice, or any other mode, doubtless because the optic nerve is located in the midst of the basilar organs.

INTONATIONS EXPRESS CHARACTER. — Whatever makes a noise, from the deafening roar of the sea, cataract, and whirlwind's mighty crash, through all forms of animal life, to the sweet and gentle voice of woman, creates a sound which agrees perfectly with its maker's character. Thus the terrific roar of the lion, and the soft cooing of the dove, correspond exactly with their respective dispositions; while the rough and powerful bellow of the bull, the fierce yell of the tiger, the coarse, guttural moan of the hyena, the swinish grunt, the sweet warblings of birds, in contrast with the raven's croak and owl's hoot, all correspond perfectly with their respective characteristics. And this law holds equally true of man. Hence human intonations are as superior to brute as human character exceeds animal. Accordingly, the peculiarities of all human beings are expressed in their voices and mode of speaking. Coarse-grained and powerful animal organizations have a coarse, harsh, and grating voice; while in exact proportion as persons become refined and elevated mentally, will their tones of voice become correspondingly refined and perfected. We little realize how much character we infer from this source. Thus, some female friends are visiting you transiently. A male friend enters the room, is seen by these females, and his walk, dress, manners, &c., are closely scrutinized, yet he says nothing, and retires, leaving a comparatively indistinct impression as to his character upon them; whereas, if he simply says yes, or no,

the mere sound of his voice communicates to them much of his character, and serves to fix distinctly upon their minds clear and correct general ideas of his mentality.

BARBAROUS RACES use the guttural sounds more than civilized. Thus Indians talk more down their throats than white men, and thus of all, whether lower or higher in the human scale. Those whose voices are clear and distinct have clear minds, while those who only half form their words, or are heard indistinctly, say by deaf persons, are mentally obtuse.⁴⁹ Those who have sharp, shrill intonations have correspondingly intense feelings, and equal sharpness both of anger and kindness, as is exemplified by every scold in the world; whereas, those with smooth or sweet voices have corresponding evenness and goodness of character. Yet, contradictory as it may seem, these same persons not unfrequently combine both sharpness and softness of voice, and such always combine them in character. There are also intellectual, moral, animal, selfish, benignant, mirthful, devout, loving, and many other intonations, each accompanying corresponding peculiarities of characters. In short, every individual is compelled, by every word uttered, to manifest something of the true character. This sign of character is as diversified as it is correct.

THE UNDERLYING PRINCIPLE here involved, and means by which these tones proclaim the character, is this: Every Faculty pervades the entire character of its possessor, and impresses itself, in its relative degree of power, upon all he does, says, and is.^{13,33,34} Thus Force proclaims its power, relative and absolute, in the framework of every sentence, and the very way the words are put together. When it is large, besides using positive adjectives, it hits every word and lisp a sharp crack at its formation, as if wadding it up into a hard ball, and pressing it out with a distinct form and outline; in bringing down the foot with a square, hard stamp, and thus of everything else; while moderate Force lets it slide out, hardly half made up, besides causing a lax, loose-jointed, unstrung, lagging, inert, tame, flat, spiritless cast of motion.¹⁶⁹ Large Force speaks so as to be heard at a great distance distinctly, while this organ moderate can hardly be heard across the room. Or thus:—

KINDNESS, Devotion, Firmness, Taste, Reason, the Affections, and especially Love, and every other Faculty, manifest their rel-

ative power and weakness in every tone, every act. One has only to know each Faculty by its palpable signs to be able to determine, from the merest trifles, and everything one says and does, just how much of this Faculty, and how little of that, each person possesses, without inspecting their heads. Nor can these signs possibly be counterfeited. "Murder will out," and so will each Faculty. Only a smattering knowledge of Phrenology is necessary to put a shrewd observer upon the track and scent of any and every one's character, any and everywhere. That analysis of the Faculties we approach will put students of human nature in full possession of all the *data* requisite for this delightful and instructive study.

"THE NATURAL LANGUAGE" of the Faculties is but a branch of that expression we are now considering, and especially declarative of the character; besides constituting an unmistakable proof of the truth of Phrenology. The law involved is, that every Faculty, when in action, moves the head in a line with itself. Thus the intellectual lobe is located in the forehead, and accordingly, when in action, directs the motions of the head backward and forward in a line with this lobe. Intellectual men never carry their heads backward and upward, but always forward; and logical speakers move them in a straight line, usually forward, towards their audience; while vain speakers hold theirs backward and upward. Hence to stand so straight as to lean backward is a poor sign, for it shows that the brain is in the wrong place—more in the animal than intellectual region. Perceptive intellect, when active, throws out the chin and lower portions of the face; while reflective intellect causes the upper portion of the forehead to hang forward, and draws in the chin, as in Franklin, Webster, and other great thinkers.

A COXCOMB, once asking a philosopher, "What makes you hang your head down so? why don't you hold it up as I do?" was answered, "Look at that field of wheat. The well-filled heads bend downward; only empty ones stand up straight." Kindness bends the head and body slightly forward, leaning towards the object which excites its sympathy; while Devotion causes a low bow, which, the world over, is a token of respect; yet, when it is exercised toward the Deity, as in devout prayer, it throws the head upward; and, as we use intellect at the same time, the head is generally directed forward, yet turned upward.

WHOEVER MEETS YOU with a long, low bow thinks more of you than of himself: but he who greets you with a short, quick bow, making half a bow forward, but a bow and a half backward, thinks one of you, and one and a half of himself. Ideality throws the head slightly forward and to one side, as in Irving, a man as gifted in taste and imagination as any other writer; and, in his portraits, his finger rests upon this Faculty, while Sterne's finger rests upon Mirth. Very firm men stand straight up and down, inclining not a hair's breadth forward or backward, or to the right or left; hence the expression, "He is an up-and-down man." And this organ is located exactly on a line with the body. Dignity, located in the back and upper portion of the head, throws it upward and backward. Large-feeling, pompous persons walk in a very dignified, majestic manner, throwing their heads in the direction of Dignity; while approbative persons throw their heads back, but to *one side*. The difference between the natural language of these two organs is so slight that only the practical phrenologist can perfectly distinguish them.

MONEY-LOVING carries the head forward and to one side, as if in ardent pursuit of something, and ready to grasp it with outstretched arms;¹⁶³ while Appetite, located lower, hugs itself down to the dainty dish with the greediness of an epicure, better seen than described. The shake of the head is the natural language of Force, and means, "No, I resist you." Those who are combating earnestly shake the head more or less violently, according to the power of the combative feeling, but always shake it slightly inclining *backward*; while Destruction, located forward, causes a shaking of the head slightly forward, and turning to one side. When a person who threatens you shakes his head violently, and holds it partially backward, and to one side, never fear — he is only barking; but whoever inclines his head to one side, while shaking it violently, will bite, whether possessed of two legs or four. Thus it is that each of the various postures assumed by individuals express the relative activity, present or permanent, of their respective Faculties. In short, —

EVERY PRIMAL ELEMENT in man, of which each phrenological Faculty is a representative, expresses itself in everything every one says and does, in proportion as it is developed. That is, each Faculty declares itself and its relative Force in everything.

Each appertains to everything in nature,⁸ to every individual, and to whatever he says and does, down to every tone of the voice, every look of the eye, every motion of the body, every sentence uttered, thought conceived, feeling felt, and mental and physical action whatsoever.

THOSE WHO LOOK LIKE ANIMALS, of one kind or another, also resemble them in character. That is, some have both the lion, or bulldog, or eagle, or squirrel expression of face, and likewise traits of character. Thus Daniel Webster was called the "Lion of the North," from his general resemblance in form, heavy shoulders, hair, and outline expression to that king of beasts; and a lion he indeed was, in his sluggishness when at his ease, but power when roused; in his magnanimity to opponents, and the power of his appetites and passions.

A DISTINGUISHED CONTEMPORARY, whose color, expression of countenance, manners, everything, resembled those of the fox, was foxy in character as well as looks; and did he not introduce into the political machinery of our country that wire-working, double-game policy and chicanery, which have done more to corrupt our ever-glorious institutions than everything else combined, even endangering their very existence?

HUMAN BULLDOGS are broad-built, round-favored, square-faced, round-headed, having a forehead square, and perhaps prominent, but low; mouth rendered square by the projection of the eye or canine teeth, and smallness of those in front; corners of the mouth drawn down; and voice deep, guttural, growling, and snarling. Such, if feed, will bark and bite *for* you, but, if provoked, will lay right hold of you, and hold on till you or they perish in the desperate struggle. And when this form is found on female shoulders, "the Lord deliver you."

TRISTAM BURGESS, called in Congress the "Bald Eagle," from his having the aquiline or eagle-bill nose, a projection in his upper lip falling into an indentation in his lower, his eagle-shaped eyes and eyebrows, as seen in the accompanying engraving, was eagle-like in character, and the most sarcastic, tearing, and soaring man of his day, John Randolph excepted. Whoever has a long, hooked, hawk-bill, or Roman nose, wide mouth, spare form, and projects at the lower and middle part of the forehead, is very fierce when assailed, high-tempered, vindictive, efficient, and aspiring, and will fly higher and farther than others.

TIGER MEN are always spare, muscular, long, full over the eyes, large-mouthed, and have eyes slanting downward from their outer to inner angles; and human beings thus physiognomically characterized, are fierce, domineering, revengeful, most enterprising, not over humane, a terror to enemies, and conspicuous somewhere.

SWINE — fat, loggy, lazy, good-dispositioned, flat and hollow-nosed; have their cousins in large-abdomened, pug-nosed, double-chinned, talkative, story-enjoying, beer-loving, good-feeling and feeding, yes-yes humans, who love some easy business, but hate hard work.

HORSES, oxen, sheep, owls, doves, snakes, and even frogs, &c., also have their men and women cousins, with their accompanying characters.

THESE ANIMAL resemblances are more easily seen than described; but the voice, forms of mouth, nose, and chin are the best bases for observation.

GENEROUS persons, in filling your tumbler with water, will fill it to the brim, and perhaps overrun it; while stingy ones will fill it only about half or two thirds full — the fuller the more whole-souled their generosity.

PARING FRUIT reveals the character. Frugal, saving, industrious persons will pare it thin; while those who cut right in, pare it thick, and throw away on the skin much of its best part, will rarely prosper, because they will not save up, but will use up lavishly to-day the *means* for doing with to-morrow.

EVERY EMANATION of everybody, indeed all the actions and movements, proclaim the character, on that general principle of homogeneity already demonstrated.⁵³ That spirit-principle which casts the form in accord with its wants,⁵⁰ also casts every single emanation from its life centre. It casts every intonation

THE BALD EAGLE.



NO. 82. — TRISTAM BURGESS.

and look, every sentence, and the kinds of words used, including the very way they are put together, grammar included, the laugh, sneeze, everything. Let a few illustrations suffice for all.

THE WALK is peculiarly expressive of the character, as is even every motion. When the life principle is slack, and its manifestations are lax, the walk is slipshod, dragging, shuffling, and loose-jointed. A walk and cast of motion full of snap and vim signify a character full of energy and power; while a shiftless, inert person has a shiftless, lagging, dragging walk and mode of moving. An abundance of life magnetism keeps every muscle taut, and renders the walk light and springy; and *vice versa*.

AN ANGULAR cast of motion, full of short, sharp turns, signifies a short, curt, snappy, uneven, ill-balanced, impatient, pert, and irritable cast of character; whereas, an even, gentle, waving, spherical cast of character denotes a harmonious, consistent, gentle, sweet, and regular sameness of character, analogous to the walk.

A SHUFFLING walk, which often hits the heels, and *shoves* the feet along, striking them every now and then, is a very poor sign, as is stubbing the toes. Those who walk thus will never do or make anything of account; while those who pick their feet up clear from the ground, handle them nimbly, and walk with a light, tripping, limber-jointed motion, will carry these characteristics into and throughout all they do. Fast walkers do every thing fast; and slow walkers think, feel, and live slowly; in fact, are slow-moulded throughout.

A GENTEEL, PRETTY, neat, tasty walk grows out of a like *spirit-nature*, which executes everything else similarly; while a slouching, ugly, ungainly, unsightly walk comes from a slouching spirit fountain. Seek the acquaintance of those whose walk you admire; but shun those whose walk is repellent, or has any ugly hitch or unpleasant feature about it.

A NIPPY, dainty, affected, try-to-move-pretty walk signifies a make-believe, artificial life; one thing inside and another out. Such are not genuine heart-in-hand persons, but are sub-rosa, insincere, bordering on cunning, and full of "false pretences."

POWERFUL AND POWERLESS walks signify, the former a powerful character, which would walk right through a stone wall, and

carry all opposing bulwarks, and the latter a powerless character, stopped by straws, and mindful of trifles, as well as swayed by them.

OTHER ANALOGOUS walks and fundamental traits of character will be suggested by these examples; which we leave readers to decipher.

THE LAUGH is peculiarly expressive of character. A loud laugh signifies power; a soft one softness; a coarse, gross horse-laugh a coarse, low bred, vulgar person; a hearty, side-shaking laugh a whole-souled, ecstatic, energetic character; a muffled laugh self-suppression and control; a spontaneous, outbursting laugh spontaneity and sincerity of character; short giggles, with little force, but rapid, a rapid way of doing little things, chores, &c., without much force or power of character, while loud, hearty giggles signify a union of power and speed throughout the character; but a laugh which begins with a spurt and tapers off, indicates one who starts in briskly, but soon slackens up, and fails to finish; and *vice versa*. Refinement, purity, power, firmness, force, goodness, affection, temper, health, and the want of either, as well as their amount, and in fact all other states of all the other elements, speak out in the voice in general, and laugh in particular, with a distinctness better seen than described. Words but mock this subject.

THE VERY SNEEZE of everybody literally tells knowing listeners all about the sneezer. Those who have a loud, powerful, hearty, explosive, bursting, tearing sneeze are resolute, strongly marked, forcible, and powerful in character, while light, easy sneezers are good easy souls, yet not efficient. The reason is that the clogged lungs of powerful persons make a like powerful effort to eject the intruding matter they sneeze to expel.

THE INTUITION of each reader will be his own teacher as to what laughs, sneezes, walks, and other signs signify what traits of character.

MANY KINDRED SIGNS indicate the general and special traits of character, but as they will come up in other connections, physiognomical under Intuition, for example, we dismiss them here with this cursory view of them, preferring to present them under those special Faculties around which they group themselves, merely adding that we here present only a cupful of nectar from that

great fountain of this well-spring of truth as a sample of its delicious waters, hoping thereby to tempt tasters to drink deeper of this gushing spring of natural truth.

SECTION IV.

PROPORTIONATE ACTION A LAW OF NATURE, AND ITS PROMOTION.

61. — A WELL-BALANCED ORGANISM THE BEST.

PROPORTION is a law of Nature. What keeps the earth in its orbit, and times all its motions, and that of all the heavenly bodies to a second? Proportionate and co-ordinate action between the forces of gravitation and repulsion. What makes air air? The "fixed proportion" of its constituent gases. Destroying this proportion, changes it to something else. What warms our bodies? The burning up within us of "fixed equivalents" of oxygen and carbon. In fact, Nature is *made up* of these proportions. The more or the less of any one function, the more or the less of all its co-ordinate functions, is a universal law of things. Its philosophy is self-evident, and its necessity absolute.

AS A FACT, it is universal. All roots of trees and vegetables are in proportion to the tops they nourish, and all tops are the larger or smaller according as their roots are either; while amputating either, requires the equal amputation of the other also. Hence cutting off a large part of the tops or of the roots of any tree or vegetable without amputating the other in proportion, injures or else kills it. Cutting down a tree kills its roots, because it destroys this proportion between its roots and top. The roots continue to eliminate their wonted nutrition, which having no top to consume it, gorges them to death. Hence transplanted trees should have as much of their tops removed as they lose of their roots by being taken up; while cutting off most of the top of standing trees is about sure to well nigh or quite kill him.

THE BODILY ORGANS and functions furnish innumerable illustrations of this natural law. Can a small heart serve a large body as well as a large one could? Can a weak stomach digest for an athletic and powerful frame as well as could a strong one? Would not a powerful stomach with weak lungs be like yoking an ele-

phant with a sheep? Since a given amount of oxygen inhaled through the lungs can combine with *only* its "fixed equivalent" of carbon supplied by the stomach, a predominance of either over the other is inimical to life, by leaving a surplus to clog and derange the whole system.¹¹³ The supply of vitality must needs equal its expenditure, or exhaustion must follow; whereas, when its supply exceeds its consumption, undue corpulency and obesity supervene. Hence extra lean persons need to manufacture more vitality, but consume less; while extra fat ones should consume more, or manufacture less, or both, or else become diseased.

A GREAT HEAD on a little body, and little heads with a great body, amount to little, unless the small is strong. At all events *feeble* brains with strong bodies, and strong brains with feeble bodies, perform and enjoy much less than average heads with average bodies. The amount of either being fixed, the more the other predominates over it, the worse. A powerful right hand or foot with a weak left, is far less favorable to efficiency than would be their equal strength in each.

ACCELERATING any function accelerates all the other functions. Nature requires and compels us to breathe the more, the more we exercise. In all cases, increasing muscular action by running, or lifting, or walking fast up hill, redoubles the breathing, circulation, perspiration, digestion, &c., in a like proportion; whereas, soon after we stop any violent exercise, we cease laboring for breath, and the pulse runs down to its natural level. Let universal fact attest.

MOST DISEASES are also consequent on the predominance or deficiency of one or another of our functions. Consumption consists in the deficiency of lung action,⁸⁶ and dyspepsia in excessive nervous and cerebral action over that of the stomach;¹¹⁶ so that its chief cure consists in diminishing brain action, and promoting muscular; that is, in restoring a *balance* of action between all the functions.

FEVERS are caused by a surplus of alimentation over its consumption and evacuation, and a consequent thickening of the blood; and by burning up this surplus *within* the system, they promote subsequent health.²³

THAT BELLE, rendered delicate, nervous, sickly, and miserable, by excessive nervous and cerebral derangement consequent on

novel-reading, parties, amusements, and all the excitements of fashionable life, can never be cured by medicines, but can be by work. Her malady consists in a predominance of nerve over muscle, and her remedy in restoring the balance between them. She is doomed either to wear out a miserable existence, or else to *exercise her muscles*; nor can salvation come from any other source. One of the great reasons why journeyings, visits to springs, voyages, and the like, often effect such astonishing cures is, that they relieve the nervous system, at the same time that they increase muscular and vital action. The same exercise taken at home, would cure quite as speedily and effectually by the same means — a restoration of functional proportion. Nine invalids in every ten are undoubtedly rendered feeble by this one cause, and can be cured by right exercise. How many thousands, so weakly and sickly that they begin to despair of life, finally give up their business, move upon a farm, and soon find themselves well? Exercise has often cured those who have been bed-ridden many years.

A DOCTOR in Lowell, Mass., called thirty miles, in great haste, to a sick woman, whose case had baffled all medical treatment, and was regarded as hopeless — all expected being merely to mitigate a disease of long standing, recovery being considered impossible — saw that she was only nervous, and told her if she would follow his directions *implicitly*, he could cure her; for he had one kind of medicine of great power, but which was useful only in cases exactly like hers, in which it was infallible. After telling her how often she must take it, he added, that she must get up and *walk* across the room the second day, and *ride* out the third.

“O, THAT is impossible, for I have not been off my bed in many years, and am so *very* weak,” &c.

“BUT this medicine will give you so much strength that you will be *able* to do both, and prevent any injurious consequences arising therefrom. Besides, it will not operate unless you stir about some. Do just as I tell you, and you will be off your bed in ten days.”

SHE sent an express after his bread pills rolled in aloes, took them, and *exercised* as prescribed, and the third day actually got into a carriage, in ten days was able to leave her bed, soon after was at work, and yet lives to bless her family, and pour upon the doctor a literal flood of gratitude for performing so wonderful a cure, which nothing but restoring the lost proportion between her nerves and muscles could have effected. Nineteen twentieths

of our invalids, especially female, become so mainly by excessive nervous and deficient muscular and vital action, and can be cured by exercise in the open air; because many are rendered invalids less by insufficient exercise than by insufficient *breath*. Females, and those who work hard in-doors perpetually, such as clerks in packing, unpacking, &c., often lose their health because they inhale spent air, and thus do not obtain a supply of oxygen adequate to its consumption. We breathe the more the more we exercise, because we need the more oxygen. Breathing copiously without obtaining its due supply, is analogous to a proportionate suspension of breath. Such should work less, or ventilate more.

CONSUMPTIVES furnish another illustration of this principle. They are so, because their brains and nerves predominate over their vital and muscular apparatus; as is evinced by their being slim, sharp-featured, small-chested, and having small muscles, great sensitiveness, intense emotions, clear heads, and fine feelings.⁸⁶ This *disproportion* of functions constitutes their consumptive tendency. Their lungs are too small for their brains. Restoring the balance obviates this tendency. Apoplexy, gout, obesity, corpulency, and the like, are caused by the opposite extreme, and can be cured by eating less and working more.

PRECOCIOUS CHILDREN furnish another illustration. How common the expression "that child is too smart to live;" because general observation attests the premature death of most brilliants. Hear that broken-hearted mother enumerate the virtues of her departed child — tell how fond of books, how quick to learn, how apt in remarks, how sweet-dispositioned and good — all produced by excessive cerebral action. Its death was caused by the *predominance* of its mind. Its head ate up its body. As the vital energies cannot be expended twice, and as an extremely active brain robs the muscles and vital apparatus, the latter become small and feeble, are attacked by disease, and die, and of course the brain with it. Such parents, ignorant of this principle, too often ply such prodigies with books and mental stimulants, and thus aggravate this disproportion, and hasten their death; whereas, they should pursue the opposite course; should use every means possible to restrain cerebral, and promote muscular action. The order of Nature requires that the great proportion of their vital energies should be expended in laying a

deep and broad foundation for a corresponding superstructure of mental greatness; and every item of vitality required by the body but expended on the mind only weakens both. The great fault of modern education is robbing the body to develop the mind, or trying to make learned babies and nursery prodigies at the expense of health. In doing this, parents often make them simpletons for life, or else youthful corpses. Just as these children become extra smart, they die. Where are those poetic geniuses, the Misses Davidson? In their graves at fifteen! What folly parental vanity often perpetrates! No education is better than such robbing of the body, ruin of the health, and destruction of life!

EXTRA TALENTED YOUTH are also more mortal than others. The flower of both sexes are more liable to die young than those more coarsely organized; because of this same preponderance of cerebral over muscular and vital power. Many of those who take our first college appointments die soon after they graduate, or become permanent invalids, because they study, study, night and day, year in and year out, thus keeping their brains continually upon the stretch, yet using their muscles little more than to go to and from their meals and recitations. What wonder that they pay the forfeit in impaired health, blighted prospects, and premature death? Why should their entire range of classical studies not embrace a natural law thus important?

WORKING MEN furnish its converse illustration. They exercise their muscles too much, and brains too little. They labor, eat, and sleep, yet that is about all. To those crowning pleasures, the exercise of mind, they are comparative strangers. Their muscles rob their brains as effectually as the heads of the literati rob their bodies. If they sit down to read or listen, they fall asleep. Their finer sensibilities become blunted by inaction, just as those of the fashionable classes become morbid by over action. Their minds are sluggish, thinking powers obtuse, feelings hard to rouse, and all their capabilities of enjoyment partially palsied; because most of their energies are absorbed by their muscles. Besides this loss of enjoyment, they are much more subject to actual disease, and die many years sooner, than they would if they labored less and studied more. This principle applies still more forcibly to the working classes of the old world.

UNHEALTHY TRADES, as shoemaking, saddlery, drawing, painting, sewing, &c., are generally rendered so by exercising only a portion of the system, and can be rendered salubrious by exercising the dormant limbs and muscles an hour or two per day. To seamstresses this advice is particularly applicable and important. Sitting for months together in one posture, arched inwardly, with their shoulders thrown forward, thus doubly impeding respiration, digestion, and all the vital functions, at the same time taking little exercise, no wonder that so many of them break down even while learning their trade, and work in misery for life. Let such walk at least two miles per day, or dance an hour before retiring, and sit straight, and sewing will not injure them. They should also restrict their diet.

EXHAUSTION INVITES DISEASE. Fatigue, temporary and permanent, physical and mental, consists in a deficiency of vitality as compared with its expenditure, and hence is a violation of this law of balance; and occasions an almost incalculable amount of sickness. Vitality resists disease in proportion to its abundance. As an active skin nullifies exposures to colds which overcome a feeble one; so strong constitutions withstand exposures which break down weak ones. While full of vitality and animal vigor, say in the morning, wet feet, malaria, noxious gases, contagion of various kinds, extreme cold, and exposures are resisted with impunity; yet when fatigued, deprived of sleep, or hungry, comparatively trifling causes, otherwise innoxious, prostrate the system with sickness. Hence few persons sicken suddenly, but most are ailing more or less for days and weeks beforehand; because debility, by cutting off the supply of vitality, leaves the system too feeble to resist renewed exposures. Even in apoplectic and other sudden attacks, disease has been undermining the system, perhaps for years. Most ailments, taken in season, can be thrown off at once, and protracted illness averted. Extreme and continued exhaustion generally precedes and induces consumption; many of its victims having first worn themselves completely out just before being taken down; whilst but for such fatigue they would have escaped. Many a one has been prostrated by disease after having watched day and night around a sick bed, not, as generally supposed, because the ailment was contagious, but because their exhaustion left the gates of life

open to the ingress of the enemy. That excessive labor invites disease is a matter of general experience and observation. Our army abundantly proves that clerks and professional men, who before lived mostly within doors, could march farther, endure more exposure, and accomplish more hard army work, fighting included, than farmers and lumbermen, whom previous labors had broken down. How many, after seasons of unusually protracted and arduous labor, first become debilitated, then sick! American females, in particular, contract many of their diseases in consequence of previous exhaustion, occasioned by undue confinement within doors, late hours, restless children and consequent deprivation of sleep, perpetual kitchen drudgery, unintermitting toil, and kindred causes; and many chronic invalids can be cured simply by rest and recreation, whose case medicines can never reach. They have expended animal energy faster than supplied it, become debilitated, are thus exposed to sickness, and can be restored only by restoring this equilibrium. Especial attention is invited to the absolute necessity of providing a *re-supply* of vitality.⁷⁴ Exhaustion, so fatal to health, so prolific of disease, is not generally occasioned by too great an *expenditure* of vitality, as much as by its *non-supply*. Invalids might do much more than now with impunity, provided they would re-supply more vitality by obeying the recuperative laws. Like a poor farmer, they take all off, but put nothing on.

EVERY WEAK FUNCTION brings *all* the functions down to its level. As in case of a dozen vessels filled with water connected at their bottoms, when either is tapped one foot or five feet up, *all* must sink to the level of the lowest; so if all your vital functions but one are five in the scale of five, while that one is only two, none can be exercised above two, unless this weak one is first restored. Invalid men and women by millions, all of whose functions but one, their liver, heart, lungs, kidneys, &c., are in perfect working order, wear out an inert and miserable existence, or die, who, by restoring this *one* weak function, could work on, enjoy on, a score or two of years longer. For such no help, no salvation, remains but to learn *what* function is weak, and restore it. Almost all are more or less impaired in some one respect, and thus maimed in all respects; whereas, restoring this weak one would restore all the others.

THESE PROOFS of our doctrine of proportion might be extended illimitably, but is it not obvious without? Does it not unfold a *fundamental* condition of health, and cause of disease? Is any other equally essential to mental or physical capability? If physicians understood this law, and labored to restore this lost balance, instead of dosing down powerful drugs, they would save a large proportion of those patients they now lose; and if mankind in general would preserve or restore this proportion; if the sedentary and fashionable would study and fret less, but take more exercise; laborers rest and read more; those who have over-eaten fast, and those who sit much in doors exercise much in the open air, the great majority of chronic invalids would soon be gladdened by returning health; that most dreadful penalty of violated law, death, be postponed a score or two of years; every Faculty of body and mind be incalculably enhanced; and their pains supplanted by pleasures. Proportion between our eating and breathing, between these two and muscular action, and between all three and the exercise of mind and feeling, will insure the observers of this law a high order of intellectual capability, moral excellence, and a long and happy life.

HOW STRANGE that a condition of life and health thus apparent and fundamental, should have been wholly overlooked by all writers and lecturers on life and health! And yet it has been.

62. — STRENGTHENING WEAK FUNCTIONS BY THEIR EXERCISE.

“There is that giveth, and yet increaseth.” — CHRIST.

PRACTICE makes perfect. Culture improves. Use strengthens. Exercise develops. Those oaks which grow up alone in the field are stronger than those which grow in the forest; because the former are perpetually obliged to put forth far more power to resist the surging winds than do those protected by each other; while those nailed to a wall always remain small and weak from disuse. Working horses aright strengthens them. Training racers increases both their speed and bottom. Wild lions, &c., are stronger than tame, because they take more exercise. Training walkists, pugilists, dancers, acrobats, &c., redoubles their performing powers. All workmen labor with the more skill, ease, and power, the more they become accustomed to their work. Gymnasts increase their weights at every day's trial, yet

lift them the easier every day of training. A gymnast developed his muscles to extraordinary size and power, but thus robbed his stomach so that he became a confirmed dyspeptic; that is, the vigorous culture of his muscles rendered them most powerful, while the non-culture of his stomach enfeebled it. Did not a like disproportion cause the death of that champion oarsman, Renforth? Literary men generally have larger heads and smaller muscles than laborers, while the latter have larger muscles and smaller heads than literati. When Dr. Windship first began to lift, he could raise only four hundred pounds, though he had practised gymnastics four years; but towards the end of his second year of training in lifting, he could raise *seven* hundred, and went on increasing every year to ten, twelve, fifteen, twenty, and *twenty-four* hundred, till he can now raise *twenty-seven hundred pounds*! In 1852 he thought he should be able some day to raise a ton, but never more; whereas, he now confidently expects to lift *three thousand* pounds! Yet he is not naturally stronger than the average of men, except that he has simply developed by *culture* the strength inherent in him by nature. None of us at all realize how strong we could render ourselves by right exercise.

D. P. BUTLER, of 43 West Street, Boston, in 1860, was coming down with consumption; took the lifting cure as his only remedy; recovered; and though at first he could not raise two hundred pounds, yet he can now lift and hold with his hands *probably more than any other living man*; and his consumption is all gone. He is curing invalids by thousands solely by lifting.

A LITTLE GIRL, six years old, put under his training for a curvature of her spine, could raise only fifty-six pounds; but after practising just one year, could lift and hold *two hundred and thirty-six* pounds; and her spinal flexure straightened thereby!

PROFESSOR HITCHCOCK, who superintends the gymnastic department of Amherst College, attests how wonderfully his pupils improve in size and power of muscle, lungs, &c.; by training.

THE HANDS and arms of sailors, and the feet and legs of expert dancers and pedestrians, are larger, relatively, than their other organs, not thus especially exercised. Rowing enlarges the chest and arms. Swinging the sledge enlarges and consolidates the muscles used. The right hand is generally larger than the left, and its fingers than the corresponding ones of the left, obviously because used the most.

LIONS are largest and strongest in their fore quarters, which they use most in seizing and tearing their prey ; but kangaroos in their hind quarters, their main means of locomotion.

THIS LAW applies equally to all the other bodily organs. The lungs can be enlarged and strengthened equally by culture. What stentorian voices street pedlers acquire, even though once delicate females, by crying "strawberries," "charcoal," and other articles, resounding throughout our innermost chambers, and disturbing our late slumbers. Twice during his collegiate course the Author was obliged to fall back on account of consumptive proclivities ; but lecturing every evening, and talking professionally all day, soon not only arrested this consumptive tendency, but rendered his lungs, then his weakest part, now his strongest, for he lectures two, and often four hours in every twenty-four, besides talking very loudly in his office from eight A. M. to ten P. M., except when lecturing or eating, without one thought of lung fatigue. But for this extra *use* of his lungs, he would have been in his grave thirty-five years ago. Cuvier, and many other public speakers, have staved off consumption by public speaking.

THE STOMACH is governed by this law ; so is the skin. Those who are so *very* particular as to what they eat usually have weak stomachs. Those who want good, lusty digestive powers must *tax*, not favor, yet not abuse them. Those catch cold most easily who *bundle up* the most. Exposing the system to colds fortifies it against them. Those children guarded the most tenderly and assiduously against exposures catch ten colds, while barefooted and ragged urchins, out in all weathers, and wet through in all rains, catch none.

NATURE'S RESTORING this balance whenever it is impaired, proves its necessity. Those children born with too much head for body instinctively race and tear around incessantly, but are averse to study ; because exercise tends to restore this balance, which study prevents. Children and adults often *grow out* of this and that ailment. Vigorous exercise of mind or body redoubles appetite, breathing, &c. That is, increasing *any* of our functions increases *all*. An overloaded stomach draws on all the other organs for help ; and so of weak or oppressed lungs, heart, &c. Yet —

INACTION WEAKENS AND DWARFS. Nothing paralyzes functions or diminishes organs as rapidly or effectually as inertia. "Idle-

ness shall clothe a man with " feebleness and disease, as well as rags. As work strengthens and enlarges the muscles, so sitting renders them small, flaccid, and weak. Nothing impairs the stomach equally with fasting—giving it nothing to do. Sheer muscular *indolence* is the cause, as vigorous exercise is the cure, of both ailments. Nor do weakly, feeble mortals, unable to walk a block or ascend stairs, deserve much sympathy, unless disabled by accident or something unavoidable; because right *exercise* would soon restore the health of most of them. But why labor farther, even thus far, to prove a fact and law so obvious as that right exercise strengthens all organs, and their functions? As well labor to prove that the sun shines. Please think in how many thousand forms this great truth is admitted and practised.

ITS PERSONAL application to the improvement of our own individual health, therefore, becomes as important as health is valuable.⁶⁹ Each reader should inquire, in the name of whatever value he puts upon his own or family's life and health, which of his or their organs are weak, so that, by restoring them, he can improve the efficiency of all the others. No other knowledge is more important; nor is ignorance on any other subject equally fatal. Hence learning how to cultivate these weak organs takes the first step towards success, health, and happiness.

63. — PROPORTION A LAW OF THE MENTAL FACULTIES.

THE MIND, equally with the body, is governed by this same law of proportionate action among its Faculties. All excesses, all defects, mar character and conduct. As lemonade, to be right good, must contain about as much sweet as sour, and sour as sweet; so perfection of character requires an equal proportion among all the Faculties. An excess of the propensities over the moral Faculties predisposes to passional excesses unfavorable to happiness and virtue, because unguided and restrained by the higher Faculties, and in that proportion puts us on a level with "the beasts that perish;" whilst a marked predominance of the upper Faculties over the lower makes one in that proportion *too* good for his own good. Men naturally make game of these *very* good, innocent, harmless people, whose goodness degenerates into softness, just as sheep are preyed upon because they lack Destruction. All should be executive in proportion as they are good,

and the better the more forcible they are, lest their force becomes aggression, or else perverted to wrong uses. Avoid both being so good as to be good for nothing, and so selfish as to overrule goodness; but be selfish enough to provide well for personal wants,¹⁶² yet moral enough never to allow the selfish Faculties to wrong others.

INSANITY, in its most common form of monomania, furnishes a perfect illustration of the evils consequent on the excess of one or more Faculties over others.

CRIMINALS generally become so by the predominance in action of one or more Faculties over the balance; yet no matter how strong any may be if all the others are equally strong, and normally exercised.⁸⁰

"GREAT MEN have great faults," has passed into a proverb, because they have some powerful Faculties along with others proportionally weak.

ONE WITH PREDOMINANT PERCEPTIVES and weak reflectives can collect and retain knowledge, excel in scholarship, and talk easily, yet is superficial, verbose, unable to ascend from facts to first principles, and lacks thought, judgment, and contrivance; but those in whom the perceptives are deficient and reflectives large, are theoretical and hypothetical; have a wretched memory, and are unable to command their knowledge, or bring their superior reasoning powers into practical use; are merely abstract, speculative, and always impracticable, and though they know how to reason, their command of facts is too limited to give them the data requisite to form correct conclusions; whereas, when both are equally developed, the perceptives furnish abundant materials for the reflectives to work up into correct arguments and sound conclusions; and the two together give general talents, and constitute a well-balanced and truly philosophical mind; creating sound common sense, correct judgment, and enlarged views, in place of those warped conclusions, fallacious opinions, and abortive efforts consequent on the predominance of either over the other.

INDIVIDUAL FACULTIES, when both excessive and deficient, illustrate this principle. Large Causality with small Expression gives plenty of excellent ideas, which are spoiled by paucity of words; while large Expression with small reflectives talks perpetually

without saying anything, and gives plenty of words along with few and poor ideas ; while their equality gives as many words as ideas, and ideas as words. A wife with small Love and large Parental Affection, prizes, does for, and dotes on her children, yet cares little for her husband ; while one with large Love and small Parental Affection loves her husband, yet neglects children ; whereas, one with *both* large, worships, does for, and enjoys both. How much the happiest is the last in her family, and family in her ! Deficient Force leaves wife, children, purse, interests, the oppressed, and the right, undefended ; while its excess creates pugnacity. Small Appetite fails daily to feed the body, but its excessive action gorges it, both of which impair all the life functions ; while its *equal* action feeds well always, but clogs never. Deficient Acquisition leaves one always destitute of the means requisite for enjoying the other Faculties, while its excess refuses them that means.

AN OLD MISER, near Raleigh, N. C., allowed his only daughter to live in utter destitution, and finally to go to the poor-house, though he was worth twenty thousand dollars, because too penurious to let her enjoy any of his hoarded thousands.

GEORGE ROGERS, a boyhood neighbor of the Author, had such an excess of Acquisition and Fear, that he buried his gold in different places, and watched it all stormy nights, thus suffering everything, and enjoying nothing, from this excess.

A MISERLY CARPENTER, in Norfolk, Va., in 1840, lived on cold and spoiled victuals which he could get for nothing, and was too mean to marry, though worth his twenty thousand dollars ; thereby starving all his other life functions ; whilst their balanced action would have made him happy in both making and using money, and enjoying his other Faculties.

A PHILADELPHIA MISER, worth half a million, often hired his children to go to bed supperless for a penny each, which he stole from them nights, gave them stale watermelons because unsalable, and never provided them with decent edibles or clothes. Was he, were they, as happy as if his love of money and children had been about equal ?

EXCESSIVE ACQUISITION with minor Caution, speculates wildly in mulberry cuttings, &c. ; contracts debts beyond means of payment, and loses all ; and with deficient Causality, devises poor

ways and means of making money ; forever tantalized, yet always grasping one straw after another, only to sink the deeper, while these organs, equally developed, love money, but not inordinately, lay out good feasible plans, yet pay up all dues, and enjoy business and money, thus gratifying both these Faculties, and all the others.

EXCESS OF AMBITION over talents makes one a coxcomb laughing-stock ; of talents over self-trust a bashful genius, who would be better off with more brass, even though with less genius. How much better equal Dignity *and* worth, over worth without Dignity, or Dignity without worth. Predominant Caution is bad, but its conjunction with small Hope is worse ; while all these Faculties *equally balanced* desire and expect distinction, mingle deference with modest assurance, and with large intellectual organs, unite talents with Ambition. Small Acquisition with excessive Kindness gives all away, capital and nest egg included ; while excess of Acquisition over Kindness hoards all, and gives none ; whereas, both equal, make and save enough for use and capital, yet give the balance. Those in whom Acquisition predominates over Kindness may, indeed, experience a sordid pleasure in making money, but are strangers to the exquisite satisfaction which accompanies works of charity, because predominant Acquisition holds in its iron grasp the means of gratifying Kindness by giving, prevents Friendship from entertaining friends ; Beauty from having nice things, and indulging refined taste ; the Intellectual Faculties from purchasing books, and taking time to think and study ; Parental Love from spending money in educating and improving children ; Locality and Sublimity from travelling ; Conscience from paying debts, and freely discharging all pecuniary obligations ; Hope from investing capital in what promises pleasure to the other Faculties ; Appetite from indulging in table luxuries ; and thus abridges most of the enjoyments of life, besides preying ultimately upon itself by grudging every farthing expended, and giving its possessor a world of trouble for fear of losing his possessions.

THOSE who have large Dignity, Firmness, and Force, with moderate Ambition, Conscience, and Intellect, are proud, haughty, imperative, domineering, insolent, dictatorial, overbearing, and selfish, yet have too little intellect and moral worth to support

their authoritative pretensions ; whereas, the equal development of all these Faculties gives superior talents and moral elevation, *along with* that self-respect and nobleness which superadd the finished gentleman to mental and moral greatness ; thereby both *being* and *making* happy.

EXCESSIVE FIRMNESS with deficient Caution, makes one decide without due reflection, and adhere with pertinacious stubbornness to previous decisions ; while excessive Caution with deficient Firmness, renders one afraid to decide, either way, vacillating with false fears, and afraid of shadows ; whereas, those with these organs equal, decide carefully, yet hold on persistently ; first making sure that they are right, and then going straight ahead. Which is the best ?

SIMILAR ILLUSTRATIONS of the importance of this balance among the Faculties might be drawn from the social Faculties ; and others still from every phrenological and physical element of man. But why enlarge upon a principle, the necessity and value of which are so self-evident, so powerful and universal, and so inseparably interwoven with the perfection and happiness of every human being ? Have we not already shown why and how well-balanced intellect is so superior to the same amount unbalanced ; why the moral Faculties, when harmoniously developed and exercised, produce that moral worth and true piety which constitute the grace of graces, the crowning excellence of man, and especially of woman, as well as the errors and evils of disproportion ? Indeed, words cannot express its value and importance. Hence, should not parents and teachers, in educating the young, and moulding their characters, physical, intellectual, and moral, and, indeed, all who seek health, long life, happiness, or self-improvement, be guided by it as their polar star, and make it the nucleus around which all their self and juvenile improving efforts should cluster !

PART IV. applies this law of balance to sectarianism and religion, and our entire doctrine of the effects of the different combinations on the character and talents apply and illustrate this law ; so that we do not need, fundamental as it indeed is, to amplify it further here. Suffice it that a given amount and quality of brain, with all the physical and mental Faculties in due proportion to each other, accomplishes and enjoys the more the better *balanced* it is, and the less the poorer.

64. — STRENGTHENING FACULTIES BY CULTURE.

God creates; man cultivates.

THE AUTHOR'S FIRST GLANCE at Phrenology showed that *in case* it taught the doctrine of the *improvability* of the mental Faculties and their cerebral organs, it taught the most glorious doctrine known to man, namely, the *modus operandi* of improving his *mind* and developing his *spirit* nature. He therefore entered, with all his soul, into this inquiry — Can exercising Faculties enlarge their organs?

"YES, TO A REMARKABLE DEGREE," responds every single observation of his whole life. Facts by tens of thousands, without one opposing, prove incontestably that the more a Faculty is exercised, the larger its organ becomes; and the less, the smaller. Let a few suffice. We are not compelled to carry all our faults, excesses, and defects to our graves. Though the tendency of all large organs is to become larger, and small ones still smaller, on the principle that "to him that hath shall be given, and he shall have more abundantly, but from him that hath not shall be taken away even that he hath," — though the larger an organ is the greater the pleasure taken in its exercise, and therefore the more spontaneous and continual its action, which naturally re-increases its size and activity; while the smaller an organ is the less pleasure is taken in its action, and hence the less it is exercised, so that it becomes diminished by inaction — yet this tendency *can be counteracted*, and the power of any required Faculty be increased or diminished at pleasure.

ANY LAW GOVERNING A PART of any given class of functions always of necessity governs the whole of that class.¹⁹ Then, since culture so wonderfully increases the physical capacities,⁶² why not equally the mental? It does. Let universal fact attest. That old adage, "Practice makes perfect," is especially true of the exercise of all our feelings, passions, tastes, moral sentiments, intellectual Faculties, and whole mind, as much as body. A few illustrations.

THE MORE THE GALLANT courts female society, the more he loves it; but the less the constitutional bachelor visits the ladies, the less he cares to see them.

SOCIABILITY increases with use, whilst the less the hermit sees of his fellow-men, the less he cares to see.

A FOND HUSBAND AND FATHER loves his family the more the more he is with them at home; while being much from home and family, weans any and all from them.

WAR wonderfully increases martial courage. Facing danger always emboldens.

THE MORE MONEY the miser makes, the more he loves it; whilst the wants of spendthrifts increase with their expenditures.

FRIGHTENED HORSES, children, and persons become much more timid after, than they were before, their first fright.

ATTENDING CHURCH, from whatever motives, makes us love to go the more, and from the same motives; and *vice versa*.

THE MORE WE ARE PRAISED, or indulge in fashionable displays, the more we are carried away with them; and the less, the less.

THE MORE WE USE TOOLS, the more dexterous we become in their use; whereas, we grow awkward by their disuse.

THE MORE PHILANTHROPISTS EXERCISE philanthropy, the more philanthropic they become; and thus of selfishness.

THE MORE ONE ACTS, the better his acting; and the less, the poorer.

OUR ENTIRE EDUCATIONAL SYSTEM is based on this condition precedent, that "use strengthens." The more we read, study, speak, or think, the more naturally and skilfully we do either; and the reverse.

THE MORE WE SING or play, the more expert singers or players we thereby become. Can amateurs in music, in oratory, in drawing, in anything, at all equal connoisseurs? Does or does not "practice make perfect?"

ALL KINDS OF MEMORY are strengthened by their culture. If you really *must* have your errand done, give it to one who does fifty or more errands per day; but if you give it to one who rarely does one, it will probably be forgotten.

THE DIFFERENCE observed between the talents of great men and common ones, is undoubtedly consequent more on their different degrees of culture than on their natural gifts. Nature makes some of it, but cultivation causes more. Natural gifts, however great, accomplish little, unless disciplined; while moderate talents, assiduously cultivated, work well.

NATURAL TALENTS we do not ignore, yet greatness requires *superior natural capacities well cultivated*. In short,

EVERY INTELLECTUAL FACULTY, every moral virtue, even every animal propensity, can be strengthened by culture beyond our highest expectations.

65. — DOES EXERCISING FACULTIES ENLARGE THEIR ORGANS?

THAT GREAT CHANGES often take place in the character, is a matter of daily observation and experience; ⁶⁴ but can the phrenological *organs* also be increased and diminished? Can so soft a substance as the brain enlarge and contract so hard a substance as the skull? "Impossible. I must see that point *proved* before I believe it, much as I am inclined to such belief." To this important point, then, the *possibility and evidences* of such enlargement, we address our next inquiry.

PHRENOLOGY PROVES that the brain is the organ of the mind, ³⁵ and that it is divided into as many different organs as there are separate mental Faculties, ³⁹ which presupposes that action in either, causes action also in the other.

ALL exercised Faculties determine a corresponding flow of blood to their organs, which deposit proportionally the materials of growth. As the greater exercise of the right hand than left enlarges it most, by determining more blood to it; so those who exercise generosity more than economy, by determining more blood to Kindness than to Acquisition, enlarge it in proportion; and thus of all the other organs and Faculties, while inactive Faculties leave their organs inactive, and therefore proportionably bloodless, and of course the smaller. Why not? Why should not that same law, applicable everywhere else, apply equally to the phrenological organs, and enlarge those the most whose Faculties are exercised the most? It does. That it does is proved by ranges of facts like these: —

THAT SAPLING, nailed along up the side of a house as it grows, remains small and weak, however large its top; but planted in the open field, where surging winds strain its every fibre and rootlet, its body grows large and stocky. Hence trees in forests grow up tall and slim, while those standing alone grow large at their base, but are short, stocky, and tough.

SAILORS' HANDS AND ARMS, and the feet and legs of expert

dancers and pedestrians, are larger, relatively, than their other organs, not thus especially exercised. Hatters say that literary men have larger heads, as compared with their bodies, than those who labor; while the bodies of manual laborers are largest relatively.

IN 1835 THE REV. JOHN PIERPONT, of Boston, had a bust of his head taken by Mr. Balley, of Manchester, England, from life. In 1841 I took from life a bust of it. The latter shows a decided increase of the whole intellectual lobe over the former, detected instantly by the latter being deeper, broader, higher, and every way more ample than the former. Kindness and Force are larger, while Caution is smaller in the latter. This increase of some organs, and decrease of others, was caused by the vigorous and almost continual *exercise* of his intellectual Faculties in the composition of poetry, for which he became justly celebrated; in lectures on temperance, truth, and freedom; as well as in his severe and protracted intellectual and moral contest with the rum-sellers of his congregation. When odes and poems were wanted, on occasions like the death of Spurzheim, or Harrison, or any national or local jubilee, he furnished the best. His unremitted labors in the temperance cause; the number, power, and eloquence of his lectures on various subjects; and the logical clearness and cogency of his letters to his vestry, evince a powerful and continuous exercise of his intellectual *Faculties* sufficient to cause and account for the increase of his intellectual *organs*, as well as of Kindness and Force, and the decrease of Caution.

THIS ESTABLISHES our position beyond a doubt. Both busts were taken when he was upwards of forty-five, and so taken that the *manner* of taking could cause none of this striking difference. This case is clear and unequivocal, and subject to the inspection of all who wish to examine copies.

REV. J. G. FORMAN took the mask of a woman in Sing Sing prison, who, from a child, had seen with the *right* eye only, and whose perceptive organs on the *left* side were much larger than those on the right; Observation, Form, Size, and Locality, the functions of which are exercised mainly by means of the eye, being much larger on the side *opposite* the seeing eye than the same organs over it; while Order, Computation, and Weight, which can act as well without the aid of the eyes as with, or at least

perfectly well with but one eye, are alike on both sides. This difference is most striking. Locality rises nearly *half an inch* on the left side, above this organ on the right. Size, on the left side, has both elevated and protruded the inner portion of the left eyebrow about half an inch, while Expression, Comparison, and Causality are equal on both sides. This mask can also be inspected. The principle of *crossing* involved in this case is established by a great amount and variety of evidence, to be a physiological ordinance of Nature,³⁷ and might have been easily foretold.

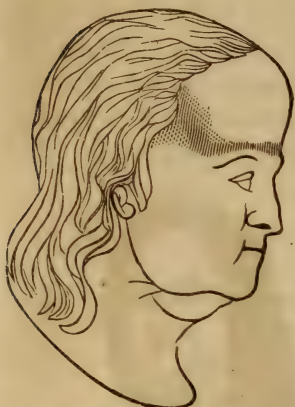
FRANKLIN'S HEAD manifested similar changes, except that his reflectives increased, but percepts diminished. The accompanying engraving of him, copied from a portrait taken when he was a young man, found in his Life published by Hilliard & Gray, Boston, represents his Perceptives as very large, and Causality retiring, so as to leave his forehead narrow and sloping at the top; but evinces prodigious Observation, Form, Size, Locality, and Eventuality, and large Comparison, with only fair Causality.



NO. 88. — YOUNG FRANKLIN.

IN A MARBLE BUST made in France, by Houdon, whose accuracy in sculpture is well known, chiselled after a mask taken from Franklin's face, and a perfect likeness of him at that time, his perceptives and reflectives are both large, the perceptives rather predominating, but reflectives prominent; but in the statue taken of him when old, and placed in a niche in the Franklin Library in Fifth Street, near Chestnut, Philadelphia, Causality and Comparison stand out in the boldest relief, while Observation and Eventuality are less. Most of the busts and engravings of this great philosopher found in shops, books, &c., represent him as old, and evince predominant Reflective organs, but deficient Perceptives, as seen in the accompanying engraving, as does also the portrait of him in the Capitol at Washington.

CAUSALITY VERY LARGE.



No. 89.—OLD FRANKLIN.

HIS INTELLECTUAL CHARACTER changed correspondingly. Young Franklin was remarkable for observation, memory, desire to acquire knowledge, especially of an experimental character, and facility of communication; while *old* Franklin was all reason and philosophy, rich in ideas, full of pithy, sententious proverbs, which are only the condensation of Causality, and always tracing everything up to its causes and laws, but less inclined to observe and remember facts as such.*

THE NATURAL LANGUAGE of his organs, an unfailing index of existing character, indorses this conclusion. Young Franklin is represented as throwing the lower or *perceptive* portion of his forehead forward, which evinces their predominance, as in engraving No. 88; while old Franklin, as seen in engraving No. 89, throws the *reflective* organs forward, as if in the attitude of deep thought. This shows young Franklin to have been what his portrait evinces, a great observer; but old Franklin to have been a profound reasoner.

LIKENESSES OF BONAPARTE, as stamped upon coins of different dates, show a decided enlargement of his forehead, especially of his Reflective organs, as he advanced in years. This difference is very great; and, since exercising Faculties enlarges their organs, surely those of no other man should be enlarged faster.

SPURZHEIM's favorite doctrine was this increase of organs by exercising their Faculties. In his excellent work on "Education, founded on the Nature of Man," he asserts and argues it thus:—

"It may be asked, whether exercising the affective and intellectual powers makes the respective organs increase. Each part of the body, being properly exercised, increases and acquires more strength. The fact is known to be so with respect to the muscles of wood-cutters,

* This original marble bust was purchased by some scientific body in Philadelphia, about 1840; and the original mask taken from his face was sold in France, among other effects of Houdon, for about two dollars, and taken to Italy. Will not some American artist or traveller in Italy procure this original, or a copy?

smiths, runners, &c. Now the brain and its parts are subject to all the laws of organization; they are nourished like the arms and legs. Cerebral activity, therefore, determines the blood towards the head, in the same way as the blood is carried to any other part when exercised. And this law of the organization enables us to account for the development of certain parts of the brain of whole nations, and to explain national characters, if individual powers are cultivated during successive generations. I can speak with certainty from repeated observations. The changes of cerebral development, when the individual powers are exercised, or kept quiet, are astonishing. In the former case individual organs increase, and in the latter they not only stand still in growth, but sometimes become absolutely smaller."

IN ILLUSTRATION of this, he exhibited, at his Boston lectures, two masks of Oldham, mechanician to the Bank of England, taken twenty years apart. That taken last, after he had become celebrated throughout Europe for his mechanical inventions, is much wider and fuller at Construction than the first.

DEVILLE'S CABINET in London, contains about seventy busts which establish and illustrate this point. Dr. Caldwell brought over with him some fourteen of them, and said this increase of organs is placed beyond a doubt by these and other specimens. Dr. Carpenter, of Pottsville, Pa., and Professor Bryant, of Philadelphia, and many others who have seen these casts, bring a similar report of them. One of these changes occurred in the head of Herschel, the great astronomer. Our likeness of him, copied from an English engraving, said to be the best ever taken, shows enormous perceptive organs in the length and arching of his eyebrows, and bears evidence of its having been taken when he was about seventy, though in another likeness of him, evidently taken when he was about forty, they are only fairly developed.

I IMPORTED some of these casts in 1845, but, unaware of their arrival, they were sold for custom-house expenses.

LIKE FACTS by thousands are constantly transpiring in our lecture-room and professional practice, showing that *exercising Faculties enlarges* their organs, while *inaction diminishes*.

A RELIABLE SIGN of this recent increase of organs by the special exercise of the Faculties is their sharpness, or knotty and irregular appearance at their heads, or largest parts. Their diminution is equally apparent, though not as easily described.

"WHAT? So soft a substance as the brain press out, and enlarge so hard a substance as the skull? And so perceptibly that these changes

can be discerned on its external surface? This is unreasonable and impossible. This doctrine must be demonstrated before it can be accepted."

THE BARK of all trees, though three feet thick, the hard shells of all crustacea, turtles, &c., and the skins of all animals, enlarge as the growth of tree or animal requires. All admit that the *whole* head continues to grow till after thirty; then why not particular *portions* of it? It is nearly as hard *before* thirty as after; so that, since it can enlarge, despite all this hardness before, why not about as easily after? The reason of its not growing after, obviously is, not its hardness, but that it does not *require* to grow.

THE LIVING SKULL is not that hard, dry substance seen after dissection; nor are its materials stationary; but, like the other bones, they are constantly changing. Of course this mutation allows any part to enlarge or diminish, according as the phrenological organs may require.

SKULL WAS CREATED to *subserve* brain action, not to repress it. Is *it* king over brain and mind? Instead, is it not their subject? Was not every portion of the entire body created solely to *aid* the mind,¹⁸ not to stifle it? Then shall skull be the only exception to this law? Shall it not rather constitute its highest illustration? Shall the shells of the oyster, lobster, and turtle, and the thick skins of all animals, even that of the elephant, so thick and powerful that it stops and flattens the rifle ball, still allow the easy growth of the enclosed mass, and shall Nature *omit* to make a like provision for the required growth of the human brain, which is so incomparably more important?

MECHANICAL PRESSURE enlarges in neither case, but the natural process of *growth* in both cases. The limpid sap of those great California trees does not *force* open its thirty-six-inch bark. Mechanical power does not stretch out or full up the tough hides of elephants as they grow fatter or leaner. This would require the outlay of tremendous force. Instead, they enlarge or diminish with the requirements of the mass they inclose. So the skull enlarges and shrinks with that of the brain it encloses, or any of its parts.⁴⁸ Nature would be seriously at fault if she either could not or did not adapt the skull to all the required increase and decrease of its "lord and master," the brain and mind. Another means of this required organic enlargement is, that

THE SKULL BECOMES THIN over exercised organs. Our collection contains twenty or more skulls in proof of this fact, but not one contradictory. A physician in Westchester County, Pa., kindly presented the skull of a female, respectably connected, who, despite the entreaties of her friends, abandoned herself to the unrestrained indulgence of Amativeness and Appetite, with music. Her skull is as thin as paper, and transparent, where these organs are located, but thick elsewhere.

JOHN EARLE, who murdered his wife, and indulged both these passions in the most brutal excess, is also thin in the same places, as is that of

BURLEY, executed at London, Canada, presented by Treasurer Harris. Burley coolly armed himself beforehand, and deliberately shot the sheriff, while arresting him for stealing a calf, and killing it for food. He was excessively drunken and licentious, yet by turns extra prayerful and religious; which seeming anomaly Phrenology alone explains by both classes of Faculties being active by turns. One of his religious seasons immediately preceded his execution. When swung off, the rope broke. During the consequent delay he proposed prayer, and was himself engaged in earnest supplication when the sheriff interrupted him to readjust the rope. His skull has a light, thin, transparent spot right over Devotion, as well as at Appetite, Destruction, and Amativeness.

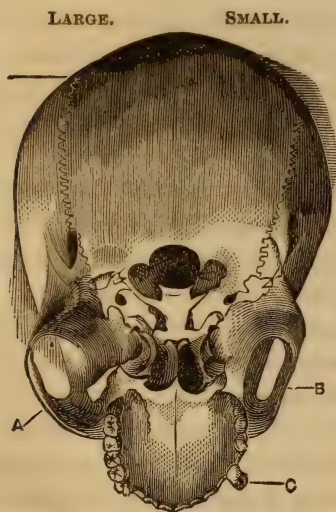
THE SKULL OF LEWIS, that most horrid murderer and desperate robber, who was executed in 1864, at Trenton, N. J., for murdering and robbing a Princeton jeweller, as he did many others, to get money with which to gratify his extraordinary amatory propensity, is the thinnest possible at Amativeness, Destruction, and Secretion; but thick and opaque, as well as very low, at Kindness, and the whole moral region. This corresponds with his *refusing* a week's reprieve, procured for him by religious people, because his execution had inadvertently been appointed on Good Friday. He spitefully insisted on being hung on that religious anniversary, in preference to living a week longer, in order, as he averred, that he might thereby shock the sensibilities and mar the devotions of religious people who had obtained his reprieve.

L. N. FOWLER has the skull of a slave, so notorious for his propensity to steal, that after he had repeatedly been whipped

almost to death for stealing, but to no purpose, on the perpetration of a new theft his master seized an axe and struck it through his skull into his brain, exclaiming, "I *will* break you of stealing, if I have to kill you." He lived, but still continued to steal; and his skull is remarkably thin and transparent at Acquisition and Secretion. The skull of another slave, noted for goodness, is thin where Kindness is located.

AN ENGLISHMAN had a cast of his head taken annually for five years, meanwhile so changing his occupations and associations each year as to call a different set of Faculties into action; and every successive cast shows the increase of those organs whose Faculties he that year specially cultivated. The first and last differ from each other so widely that they would hardly be recognized as having been cast from the same head. Of course all casts exactly represent that from which they are taken.

ATMOSPHERIC PRESSURE, fifteen pounds per square inch, presses in the skull over shrinking organs, a pressure amply sufficient to depress anything at all flexible.⁴⁸ It depresses the other bones.



NO. 90. — ZYGOMATIC ARCH.

Then why not those of the skull as well? Compare these two zygomatic arches, those projecting bones between the eyes and ears, which enclose the masticatory or chewing muscle, as seen in the accompanying engraving of a skull, viewed from its under side, which had teeth only in the left jaws. This arch on the left side (A), where there are teeth, is unusually large and bowing; but on the right side (B), where there are no teeth, it is sunken just where it is fullest in A. That is, this bony arch is full and round on the side used, or where there are teeth, but small on the side where there are no teeth, where of course this muscle

could not be called into action.

Dissection showed that the masticatory muscle, on the side where there were no teeth, was small; on the other side large,

evidently because the former had little action, and the latter a double share of it. The bearing of these and thousands of like facts is direct and positive. Besides demonstrating that the exercise of Faculties enlarges their organs, it strengthens the following corroborative facts, though perhaps they would be insufficient of themselves to establish it.

STONE-CUTTERS, and especially letterers, have large Form, Size, and Locality, as seen in all their heads; obviously because their avocation calls these Faculties into vigorous and constant exercise.

EXPERIENCED SEAMEN have Weight large, whilst it is deficient in most farmers, merchants, and others; obviously because the constant motion of the ship keeps this Faculty in perpetual action in seamen to preserve their balance, especially when aloft; whereas, ordinary avocations rarely tax it much. It is also large, and for the same reason, in engineers, and those who work about machinery, in expert marksmen, billiard-players, riders, rope-dancers, carpenters, and those whose occupation requires climbing, as well as in factory spinners and weavers; yet is usually deficient in those whose vocation does not require it.

MOST WEAVERS have large Continuity, which is usually small in the American head. At Young's Factory, Delaware, in 1839, I selected some fifty weavers, from operatives engaged in other branches, just from this sign, and made but one failure; and that on one of thirty, who had woven only fifteen months—hardly long enough, at that age, to perceptibly enlarge an organ. The reason is obvious; namely, that weaving keeps the whole mind exclusively occupied upon one and the same thing, day after day, and year after year. This will serve as a valuable hint to those who wish to improve it. Englishmen and Germans generally have it large, while it is small in most Americans, which corresponds with the national habits of both. The former usually devote themselves exclusively to one study or occupation, and can make a living at no other, while the versatile talents of the latter enable them to turn their hands to almost any and everything with success. So strongly marked is this characteristic in Americans, that it is a great national fault, and renders us next to superficial.

IN PILOTS, and seamen generally, Locality, Size, and Form are

large, because called into incessant action in learning and remembering the beds and turns of channels, the exact positions of rocks, shoals, light-houses, trees, and all other signs of their positions, distances, and whereabouts.

L. N. FOWLER, on returning, in 1836, from an eighteen months' lecturing tour South and West, had enlarged Observation, Form, Size, Locality, Eventuality, Language, and Comparison, which travelling and examining had called into constant and intense exercise more, relatively, than his others not called into special action.

IN 1835 I visited the Deaf and Dumb Asylum of New York City, and, to say that the organ of Imitation, as developed in the heads of the pupils of this institution, was twice as large as it is usually found, would by no means come up to the truth. Such a development of this organ I had never seen before; and, what is most extraordinary, it is very large in *all* the pupils. To the question, "How is it possible for you to teach these unfortunate beings, who can neither hear nor talk, to communicate their ideas and feelings with a readiness and facility almost equal to those who can both talk and hear?" Mr. Cary, one of the instructors, replied, "We teach them to express themselves by those gestures and actions which are the *natural* expression of their feelings." In one of their debating performances, the one who was addressing the rest was all life and animation, and made use of the most natural and expressive gesticulations. At their meals and sports, all their communications consisted of their ideas *acted out*. Mr. Cary brought one forward who was noted for his wonderful power of imitating a man shooting fowls. The Author never before saw any specimen of imitative power at all to compare with this, or another such an organ of Imitation as this youth possessed. That this organ and its corresponding Faculty are not in so high a degree *innate* in them, is evident from the fact that they are so much larger in these youth than in others. Hence, this increase of the organ in proportion to the exercise of this Faculty, and this extraordinary power of the Faculty, which corresponds with the increased size of the organ, bring us to the obvious conclusion that the reciprocal increase of the two stands in the relation of cause and effect.

IN THE NEW YORK BLIND ASYLUM, the manifestation in the pupils of much smaller organs of the *Perceptive* than of the Re-

flective Faculties, is so plain as not to be mistaken by the most superficial observer. Now, *why* is this? Evidently because, in consequence of a destitution of sight, they cannot exercise their perceptive Faculties, and therefore these remain unincreased; and, on the same account, the reflectives receive the greater exercise, and consequently become uncommonly large.

COLOR in the blind is universally deficient, indeed almost wholly wanting, obviously because, since this Faculty is exercised by means of the eyes, their blindness renders it inactive, and therefore small.

INHABITIVENESS is generally large in those who have lived in the same house till fifteen, because always living there has cultivated this Faculty; but it is deficient in those who have lived in different houses while small, because moving weakened their home attachments by disturbing them. A good examiner, by this sign alone in children, can tell whether they were brought up in one domicile, or have lived in several houses.

CAUSALITY and Conscience are generally large in Scotchmen, because they reason so much upon moral and doctrinal subjects.

ACQUISITION is usually deficient, because little exercised, in the ladies of New York City and the South, but well developed in New England and Quaker women, who are brought up in the practice of industry and economy.

CONSTRUCTION is much larger at the North than South, and in manufacturing towns, than in those who are "not obliged to work."

THE FIRST TEN HEADS examined in any place tell whether its inhabitants are proud, secretive, acquisitive, moral, ingenious, or whatever other dominant characteristic they may possess. Every community has a distinctive character as much as every person; doubtless because their original founders had certain Faculties predominant, which, by being continually exercised, excited the same in all new-comers, and thus developed the corresponding organs, and thereby stamped the impress of their own minds upon all around them.

LAWYERS AND POLITICIANS have large Expression, Force, and Comparison, because their vocation brings these Faculties into constant action; and the religious denominations have each a characteristic set of developments, as Part IV. shows, though this is doubtless caused in part by hereditary descent.

THESE AND LIKE FACTS, weighed by themselves in the scales of inductive reason, would be light, and might not even cause it to preponderate in their favor, yet thrown into the same balance with those already adduced from busts, they add much weight to a scale already weighed down with more conclusive proof.

ANOTHER CLASS of facts, more unequivocal, is found in examinations of the same head, made at different periods. As the public have given me some credit for correct examinations, they will doubtless place reliance upon the summary result of my observation, which is, that every year's practice increases my surprise at the number and extent of these changes, a few of which I will narrate.

IN 1836 I examined a subject whose Devotion was only three in the scale of seven, at the same time putting his finger into the marked depression between Firmness and Kindness, and exhorting him to be more religious. He was examined again, incognito, in 1842, and his Devotion marked *large*, the depression to which his attention was called in 1836 being entirely *filled up*. He then stated that he became a praying man soon after the first examination, and had continued so ever since. He called mainly to inquire if becoming religious could have caused this change in his developments, which he had observed for the last two years.

THE HEAD OF MR. S., of R., was examined in 1835, and described as so eminently religious that the whole examination turned upon this point. Re-examined in 1841, without knowing him; at the first touch of his head I exclaimed, "Infidel, irreligious, utterly destitute of belief," &c. At the first examination he was a very consistent professor of religion, and zealously engaged in promoting revivals; but, soon after, had become a disbeliever, and at length a confirmed infidel, so that he was expelled from the church, not for immoral conduct, but solely on the ground of his infidelity.

A YOUNG MAN of intelligence, in 1836, stated that, when a boy, he had a schoolmate so exactly his age, size, and height, that their clothes and hats perfectly fitted each other; that his young friend went to West Point, and he to a mechanical trade; that when his friend had graduated, they met, and again exchanged hats; that his friend's hat, instead of fitting his head as before, was too large in the forehead, and too small over the temples, while his own hat

pinched the cadet's *forehead*, but was loose over Construction, which showed an increase of the intellectual organs, particularly of the Reflective, in the cadet, whose studies called these Faculties into powerful action, but an increase of Construction in the head of the mechanic.

EVENTUALITY is always large in Jews, doubtless because they tell the Lord's doings to their children and grandchildren; in doing which they exercise Eventuality. The same is true of the North American Indians, who perpetuate their history in the memories of the rising race.

ACQUISITION is almost invariably small in the children of the rich. Having every want supplied, and therefore no occasion for the exercise of this Faculty, its organ becomes small from mere disuse, Nature thus effectually preventing the continuation of immense wealth in the "First Families."

HOPE averages much smaller in Canada than in the States; obviously because it is so much more stimulated to action by our institutions than by theirs. Here enterprise is the rule; there the exception. Yet this organ is much larger there now than formerly, and they are now correspondingly more enterprising in business.

ENGLISH SOLDIERS and minor officers have large Firmness, Force, Destruction, and Love, with smaller Acquisition, Conscience, and Causality, doubtless because army discipline and associations cultivate persistency, courage, and gallantry; but diminish moral feeling and industry, by their food and raiment being furnished and pay regular, with no opportunity or incentive to either traffic or accumulation.

A YOUNG MAN in Omaha, Neb., was told, in 1869, that Hope was excessive, and must be restrained, and re-examined in 1872, incog., that it was too small, had been lately depressed, and should be cultivated, when, to account for this change, he related the following intermediate incidents:—

"I HAD ALWAYS possessed very large Hope till just before your first examination, when a beautiful young lady, whom I loved to distraction, discarded me because she loved another, when, in a fit of frenzied despair, I shot myself right in front of her father's gate, just after she had finally refused me, and lingered long at the point of death, but finally recovered, she meanwhile nursing me.

"I FINALLY PERSUADED her to abandon her lover and betroth herself to me, which she did solemnly, though most reluctantly. But when she told her lover, he and she took this proposed separation so deeply to

heart as to almost crush both; their last parting before her proposed marriage having been *terribly* agonizing to both; for till then neither realized how devotedly they really did love each other. Still she considered her betrothal to me sacred, and that every principle of duty required her to keep faith with me.

"HER WEDDING apparel, edibles, and all, were got ready under her assistance and direction; she meanwhile appearing meekly resigned to a hard lot, while I was hopeful and happy beyond all power of words to express.

"OUR WEDDING MORNING dawned brightly. She arrayed herself tastefully for our anticipated nuptials. The fatal hour came. She had secreted her father's loaded pistol in her room — he being a police officer, — begged to be excused a moment, and *shot herself through her heart*, and expired.

"THIS BLOW was indeed terrible. It crushed and paralyzed my whole being. I fell into a moody, hopeless state, feeling as though no earthly good remained to me. Instead of hoping for everything as heretofore, I distrusted everybody and everything, but anticipated nothing. I barely survived, but was heart-broken, wrecked, and no longer myself."

This touching tragedy, which made a great noise in the papers at the time, as well it might, is full of warning and instruction: warning to all not to allow their hopes to *be* crushed out, be their disappointments however great, and instruction, when our hopes do fail to adopt and nurture some *other* expectations. As we can carry a much heavier load by standing *upright* than by *bending* under it, so hoping on, hoping *ever*, for that when this hope fails, and for something else when both are blasted, will wonderfully brace up resolution, and promote subsequent success and happiness. Never give up in despair, but "look aloft."

AT THE SOUTH, before the war, Hope was very large in almost all; after it, pitifully small; obviously consequent on its sudden and terrible reversal, because of the collapse of their cherished cause, after all their noble, even sublime patriotic sacrifices for independence. To behold a great and chivalrous people thus demoralized is indeed painful. Yet should they not "hope on, hope ever" for the *next* best good attainable?

GOOD, LOVING WOMEN, by millions, in marriage and out, but most in, lose their hopes, and of course life-zest, by bending meekly under the crushing influences and pinings of a former love blighted, or deferred; whereas, they should bury any affection just as soon as it becomes hopeless, and initiate another, or, if married, make the best of what remains to them. Crying over spilt milk spills more, but gathers up none already spilt. Hopeless

women mope everywhere, who might just as well be cheerful and happy if they only *thought* so. They martyrize themselves by a forlorn pining, when they might just as well electrify themselves and others by hopefully trying to initiate another "love affair."

ANALOGOUS FACTS BY MILLIONS prove that all our Faculties can be strengthened, and their organs enlarged, by culture. Every species of memory, every intellectual gift, and all our social, moral, and human talents and virtues, can be improved *illimitably*. Yet discipline redoubles the power of functions much more than mere size of organs, because, as Spurzheim says, it renders them far more *supple and vigorous*, as well as susceptible and enduring, by enlarging their blood-vessels; just as muscular culture strengthens the muscles much more relatively than it enlarges their organs.

INQUIRING READER, are not these proofs of the principle that the Faculties and organs can be developed by culture so absolutely conclusive that we can safely tie to and build on it?

66. — VALUE OF THIS SELF AND JUVENILE IMPROVING CAPACITY.

OUR UTTER FAILURE duly to estimate the value of life,¹⁵ must be repeated in this vain attempt to "cipher out" the worth of this self-improving arrangement of Nature. Did you "figure up" the sum total of that final valuation you concluded to set upon your existence? How great is that sum? How much for each finger, limb, function, and Faculty separately? Then how much for all *collectively*? You need not modestly make a low estimate. Will you admeasure it by the "almighty dollar" standard? We generally concede that things are worth about what money the possessor is willing to take for them; then pray how many dollars is your *existence* worth to you? Come, you sharp salesman, how much will you *take* for yourself, just as you are? A hundred thousand dollars?

"WHAT! Do you think me so consummate a fool as to take a hundred thousand dollars for my body and mind, with all their powers and pleasures, and become as if I had never been? All the dollars of all the Rothschilds, and all the valuables on earth 'to boot,' are inadequate payment.

"BESIDES, after I had 'sold out,' and got my money, however much, what would it all be to me? I should cease to be! Therefore all else would cease to be to me! Killing the goose that daily laid the golden egg was foolish enough, but was wisdom in comparison to the most inferior of mortals selling their life-force at any price."

DOLLARS, dear reader, our usual measure of value, are not worth enough to admeasure that of life. Still, since we have no better standard, let us do our best to estimate with this, not so much the value of life, as that of its *improvement* by culture. To rate the lowest human life at fifty thousand dollars, and the highest at a hundred millions. Now rate yourself anywhere you please, say a million, just as a base for "reckoning."

IN YOUR FACULTIES,³³ including their functions, this value inheres; and is the greater or less in proportion as *they* are the stronger or weaker. You were worth much more yesterday, because health rendered your Faculties brisker than you are to-day, when sickness enfeebles them; yet by restoring your functional powers to-morrow, you will restore your value; therefore, —

INCREASING these capacities, now worth a million, twenty-five per cent., which all can do in any year, will make you worth a million and a quarter; and two hundred and fifty thousand dollars is quite a "pile," for a moiety of which many would work hard and long; and doubling your functional capacities in a year, which most can do, would make your *annual income one million*, and render you immensely wealthy, and in the best kind of property, which needs no insurance, besides being burglar proof. All your salary, profits, speculations, and incomes combined, then, are as a small drop in a large bucket in comparison with self-improvement; so that your best way to get the richest the fastest consists in improving your life capacities. *What is it worth* to be able to obviate faults, and augment excellences, *day by day*, all along up through life! Yet, —

YOUR BEST VOCATION, for which you have vainly looked so long, more profitable and less irksome than your present, consists in making self-development your great life *business*. It is your most "*paying* investment." Whatever promotes it is most "profitable;" whatever prevents it, is unequalled loss and misfortune.

ALL IMPROVEMENTS delight their maker. How great the pleasure taken in clearing lands, rearing and bettering houses, planting trees and seeing them grow, enlarging business, &c.; yet how utterly insignificant are all these in comparison with developing *intellect*, and rearing and beautifying a magnificent *spirit-temple* with those divine bodily and mental materials out of

which humanity is composed ! Exult, ho, all ye who live ! shout for very joy ! make the welkin ring with huzzas, and fill heaven and earth with ecstatic "praise to God," that He thus renders possible, and even provides for, our illimitable and eternal improvement in those all-glorious capacities He has bestowed upon us ! "Bless the Lord" that He permits and helps us become more and more like angels, and even Himself ! This work is the most inspiring in which mortals can engage on earth or in heaven. This sight is the most beatific terrestrials are permitted to behold. To help lessen human imperfections, vices, and miseries, and perfect that magnificent temple, Humanity, now slowly but surely developing, as well as to carry our own personal perfection upward to the highest pinnacle attainable on earth, should make us exult with rapture inexpressible. Shall getting or spending money drag us down from a labor of love thus delightful and angelic ? Shall we reap *such* a harvest, or let it pass by in arms-folded sluggishness ? Shall we allow anything whatever to drag us down from a natural destiny thus soaring ? Shall not *such* a work and prospect nerve us to put forth our utmost self-improving effort ? We *can* improve ourselves far beyond anything we now deem possible, and we *will*. Let us be up and doing *here*, since all terrestrial self-culture immeasurably enhances *celestial*.

IMPROVING DARLING CHILDREN by their culture is equally soul-inspiring to parents. The earlier it is applied the greater the harvest it yields ; because to develop their yet plastic Faculties is easy. How all parents should literally exult in a labor of love thus delightful, which angels might envy ! You struggle manfully to leave them rich, and literally lavish time and money on their scholastic culture, yet strangely omit the only true means of evolving their native excellences, from want of knowledge, not affection. You grope in the dim twilight of the past, while Phrenology is illumining this horizon of the mentality.

To PROMOTE ends thus glorious are these pages written. Yet, SELF-DEGENERATION is equally possible. This scale can *descend* as well and fast as ascend. We can grow poor as fast by self-deterioration, or rich by self-culture. The possibility of making thus large "profits" involves that of equal losses. We can no more remain stationary in this respect than in age. A terrible cold, a night's debauch, a fit of sickness,³⁸ or constitutional shock,

by impairing your functional powers fifty per cent.,⁶⁹ — a frequent occurrence, — costs you half your powers to enjoy and accomplish forever. How great is that loss ! Half a million loss does not measure it, because your life is worth more than one million.

1. Then, —

HOW CAN WE ATTAIN ends thus glorious, and avoid those thus disastrous ?

67. — SELF-KNOWLEDGE, AS TAUGHT BY PHRENOLOGY, THE FIRST STEP TOWARDS SELF-CULTURE.

ATTAINING a good thus great, and treasure thus precious, would seem correspondingly difficult, yet is as easy and simple as breathing. We need neither wash in Abana, Parphar, nor Jordan, nor undergo a pilgrimage to Mecca, nor crusade to Jerusalem, nor even abridge, but only promote every single life pleasure. Not that we have nothing to do, for our progress will just equal our right efforts. Having placed the means within our reach, Nature leaves us to improve or neglect them, and bide the issues. As soil bears the more the better it is tilled ; so having placed these self-perfecting ends within our reach, she leaves us to plant and nurture them, and enjoy their fruits, or to neglect their culture, and embitter their fruits by sin. Let those who are careless of happiness idle or trifle on ; but let those who would become by culture, what God has made them by Nature, eschew all hinderances, and gird every energy of their beings for this great life-work ; first entering, with their whole beings, upon that first inquiry, —

WHAT DO I REQUIRE TO CULTIVATE, and what to restrain ?

YOUR PHRENOLOGY answers. SELF-KNOWLEDGE is the first step towards self-culture, and a knowledge of children towards their improvement. As, before doing anything whatever, we must first know just *what* requires to be done, then how to do it ; so the first step in juvenile and self-improvement consists in knowing in just *what* you and they are out of proportion, — what *Faculties* are excessive and defective.

ONE SINGLE EXCESS or defect often spoils an entire character, and renders life a complete failure ; and *every* excess and deficiency mars every one, however good otherwise ; just as a good horse is spoiled by having one leg broken. None of us at all

realize how much we lose by this defect and that excess ; nor how much better and happier we should be without them. Excessive Hope, or the want of it, will throw away a fortune, or a chance to make one ; whilst mending that one fault would bring a fortune. Let a few facts illustrate :—

MR. GILLMORE consulted me in 1863, was told, "Strike for a first-class hotel or restaurant." Though a small baker, prompted solely by this advice, he leased a first-class restaurant, then the Eutaw House, and is now at the head of the largest and best hotel in Baltimore, and clearing fifty thousand dollars per annum. Ask him how many dollars that examination has put into his pocket, and he will answer, "It is fast making me a millionaire. But for it I should have continued a petty baker."

The keeper of the original Willard's Hotel, of Washington, D. C., will tell a like story.

A THIRD-RATE LAWYER, in Davenport, Iowa, was told, "Quit law, for which you have no talent, and try art, for which you have a genius." On the death of Lincoln, happening to be in Washington, and desiring a likeness for himself, he tried to make a sketch, took the best likeness of him ever obtained, and has taken the best of Grant and others. How much was that worth to him?

DR. T. NICKOL, nominated for public examination in Bellville, Canada, and told that he was a natural born physician, and, especially surgeon, but had no mercantile talent, then stated to the audience : "Seventeen years ago I consulted Professor FOWLER ; was told the same story that you have just heard ; was a merchant ; failed ; thought that as this gentleman was right about the failing in trade, he might also be right about succeeding in surgery ; studied medicine ; and you know the rest." He is professor of surgery in the medical college there, and the best surgeon in that whole section of Canada.

A CANDY MERCHANT, on Washington Street, Boston, in 1860, brought her two-year-old son, averring that she could do nothing with him ; was told how to govern him ; followed this advice ; and now attests that she has since not only had no trouble at all, but that he is just as good a boy as she could wish.

MAX ! Who has not heard of that brilliant newspaper correspondent, "Editor of the St. Louis Democrat?" Applying for a phrenological examination while a printer's "devil," he was told

to set type only just long enough to prepare himself to *write* for the papers, for which he had a natural gift. That examination "*brought him out.*" Ask him its value.

HYRAM JOY, of Chicago, told one phrenological error, and how to mend it, in 1850, cleared one hundred and fifty thousand dollars in the next five years, just by following the advice then given, based solely on his Phrenology.

A CORRECT PHRENOLOGICAL EXAMINATION is indispensable to Self-Knowledge and Self-Culture; for, by admeasuring each mental Faculty, it points out our own and children's *constitutional* excesses, errors, defects, &c., and shows how to obviate them; reveals natural talents, and thereby in what business, sphere, or pursuits we and they can, and cannot, succeed, thus preventing failures, and guaranteeing success and happiness; directs *specifically* just what physical functions and mental Faculties either may require to cultivate and restrain; shows how to *make the most* of whatever inborn capacities and virtues either may possess, as well as the best way to influence and govern each; and is our *very best* means of personal and juvenile improvement possible. In short, Phrenology embodies the whole science of human life, which a correct delineation applies throughout all our every-day affairs and feelings. It is therefore worth a hundred-fold its cost used on the body. We spend far too little, relatively, on our *minds*, yet no mental expenditure of time or money bears any comparison to a scientific phrenological diagnosis. It will show us our natural talents and virtues, and how to cultivate them, and to what faults we are predisposed, and how to obviate them, which is worth more than all Astor's millions. If followed, it will effect a complete physical and mental *regeneration*.

No OTHER profession bears any comparison with Phrenology in the practical good conferred on applicants. Horace Mann, that highest educational authority, has well said that young persons should spend their last dollar, if necessary, before starting out in life, in learning from Phrenology to what pursuit they are naturally adapted, and justly pronounced its disseminators public benefactors. Nor does he overrate, for it might avert *throwing a young life away* on an unadapted business. Such a loss, how great! How awful! And how hard to change when we begin wrong! Especially with a dependent family. All easily avoided.

A SCIENTIFIC phrenological diagnosis of yourself or child is worth immeasurably more than well-stocked farms, full stores of goods, corner blocks, stocks and bonds by millions, and all other actual and possible pieces of property and human possessions put together, because the most useful.

68. — HOW TO STIMULATE EACH FACULTY TO SELF-DEVELOPING ACTION.

PERSONAL EFFORT alone can secure so *great* a prize. It can neither be bought, nor obtained by proxy, nor even inherited, except in its rudiments, but can be *acquired*; yet only by the patient personal culture. Parents can no more become good or bad, talented or simple, happy or miserable, for their children, than eat or breathe in their stead; but only supply them with requisite facilities and incentives. They can furnish them the means of self-development as they do bread, but unless those children *themselves* partake *personally* of this mental nutrition, it will do them no more good than uneaten food.

FITFUL action will benefit little, might even injure when coupled with *inertia*, just as fitful exercise injures more than benefits. As Nature's sun does not burst suddenly into and out of earth's darkness, but is always preceded by increasing dawn, and succeeded by darkening twilight; as vegetation does not spring up and ripen in a day, but requires patient culture, so self-growth, more than anything else, requires stable, persistent, long-continued effort, and the work of a lifetime. As yon towering pine, or that great elm, is the work of centuries, so human perfection is no Jonah's gourd, springing up in a night, and disappearing before the next noon; but, like that great oak, the almost daily accretions of ages. A fully developed human being, completely matured by age and self-culture, is incomparably the most glorious production of earth. A result thus grand but a day's work! Nature requires efforts in some proportion to the good sought. To become completely self-developed, we require to begin early in life, and add *daily* to our talents and moral virtues, clear up to old age, and its terrestrial termination in death. Nor should any of us be satisfied to retire at night, unless and until we have improved ourselves, lessened some fault, increased some virtue, or capacity, and become better since we rose. Not that we must keep on

sowing a lifetime before, and in order to our reaping a harvest at death. Instead, —

WE REAP AND SOW TOGETHER. Unlike sacrificing the prime of life in amassing wealth, and dying when just ready to begin to enjoy it, we enjoy the very effort itself which secures the desired self-improvement, as well as the improvements themselves afterwards. That very action of the Faculties which develops them, is itself the most delightful pastime, not task. Self-culture, in its very nature, yields this *double* reward, — pleasure in *making* the self-improvement, and pleasure in it ever after it is made. In this respect, all kinds of self-culture are like studying. We take intense pleasure in the study itself, and then ever after in enjoying the knowledge thus pleasurably acquired.

THE NORMAL EXERCISE of every function, by an eternal ordinance of Nature, is pleasurable.¹⁹ Indeed, nothing else whatever is so; and we desire, work, pay for all things whatsoever solely *because* they excite our Faculties to that action which makes us happy,¹⁵ and also develop our Faculties, and capacitate them for still greater action, and therefore pleasure, for all time to come. He is a good paymaster who pays once when the work is done; but Nature is a better; for she pays both *in and by* its doing, and after it is done, and then keeps on paying over and over again forever afterwards.²²⁰ That very action which develops, makes happy — that one end of life,¹⁵ — “both now, and forever.” Yet, —

OVERWORK WEAKENS the brain, as well as muscles. Too much of a good thing is worse than nothing. Many gifted men and ambitious youth work so hard as to more or less paralyze their brains, and prevent future study,³⁸ just as men often, by overworking to-day, forestall their capacity to work to-morrow. Yet this is consequent partly on merging too *suddenly* from hard muscular to excessive mental effort. But of cautions elsewhere.

HOW TO PROMOTE this self-developing action of each Faculty, then, is the *very* chit of this subject, and essence of this section. Effort is not enough; it must be *right* effort. The means of stimulating each Faculty is simple and homogeneous, yet all-powerful, and governed by this law.

THE NATURAL ALIMENT of each Faculty provokes it to that spontaneous action which develops it. Light is the natural food of the visual Faculty, and provokes it to action. Nothing but

light can do this ; nor can light be presented to it without causing that involuntary action which strengthens it ; yet all else is of no avail.

MUSICAL SOUNDS necessarily provoke that action of the Faculty of music which develops it. All else is useless ; yet it so is that musical sounds cannot be presented to it without inspiring to and compelling self-developing action. All required, therefore, in order to strengthen it, is to bring musical sounds before it, as in practising music, not mechanically, but a music-enjoying zest.

CONSCIENCE can be cultivated by inquiring what is *right*, and then doing it, at all hazards, from *love* of the right, and aversion to the wrong ; while tamely tolerating wrong in ourselves or others blunts and weakens it ; as do all vain self-condemnations for having done wrong. That is, its reversed action impairs, its normal action develops it. Patiently *enduring* wrong done to ourselves or others humbles and blunts this Faculty almost as much as actually doing wrong. Conscientious compunctions harden it, while gratifying it by doing right ourselves, and promoting it in others, improves it. Taking advantages of others because they do of us, blunts our own moral tone.

DOING GOOD from genuine sympathy, being a normal exercise of Kindness, develops it ; while seeing distress without trying or being able to relieve it, blunts and hardens it. Our first sight of slaughter agonizes terribly, but blunts, so that subsequent sights torture it less and less, till it finally allows Destruction to resist it. On this principle, war hardens the sensibilities of both soldiers and beholders, and must do great public good to compensate for its great blunting of the public morals.

APPETITE can be cultivated, not by forcing down food you loathe, but by pampering and *coaxing up* an appetite, by trying to enjoy eating, and seeing others eat ; Acquisition, by loving and acquiring things of value, not by fearing danger, or feeling pity ; Causality, by planning and thinking, not by seeing places ; Force, by grappling in with opposition, and defying danger, not by beef-steak, or money, or sleeping ; Devotion by thoughts of God ; Mirth by what provokes laughter ; Locality by travelling, &c.

HUSBANDS AND WIVES love each other the more tenderly the more they are together, while the more they are separated the

less they miss each other; thus showing all how to cultivate conjugal affection, namely, by living lovingly together; but warning absentees that *all* absence weakens the affections of both, unless kept up by a loving correspondence. Families should be separated just as little as possible. Sending a loving daughter away from home to a boarding-school necessarily weakens and dissipates her fondness for parents and family. Seminary "accomplishments" are not worth these witherings of *home ties* they necessarily occasion.

SENSE OF CHARACTER is strengthened by praise, but blighted by blame and chastisement. Commending a child for well-doing makes it do the more ever after, so as to get still more praise; while all fault-finding benumbs and hardens it permanently. Parents, *build up* this ambitious, aspiring Faculty, by praising where you can, but saying nothing when you cannot commend, or else telling them how they can get more praise. Spare and nurture their ambition just as much, and sear and harden it just as little, as possible, all the way up from the cradle. Yet, alas! how many lose their nice regard for their characters by constant searings from parental chiding and censure, till, caring little what they do, they become completely demoralized! None should tolerate stigmas, much less do what will occasion them, nor detract from their good name, which is worth more than rubies.

MEMORY, in each of its kinds, can be cultivated thus: Each intellectual faculty remembers its own functions, together with any feelings connected therewith; so that there are as many different *kinds* of memory as there are intellectual Faculties: Form, recollecting faces; Locality, places; Language, words; Music, tunes; Eventuality, facts; Causality, thoughts, &c. To cultivate each, bring its natural food before it thus: Form, adapted to configuration, remembers all kinds of shapes, persons by their faces, &c., and hence can be cultivated by noticing forms, charging memory with them, saying to yourself, "Now I *will* scan this man's nose, eyes, chin, face, lips, forehead, cheeks, ears, hair, and entire looks and aspect, and so impress them on this Faculty, that next time when I see him, I'll remember them and him, sure." Detectives possess, because they cultivate, this recognizing power to a remarkable extent. "Go, thou, and do likewise."

EACH KIND OF MEMORY can be cultivated by charging it with whatever you would remember. To cultivate memory of facts, exercise it in remembering them; to strengthen verbal memory, commit to memory; to improve expression, talk as much, and speak as often as possible in prayer meeting, debating club, political caucus, parties, gatherings, &c., and by telling what you know, think, have seen, read and heard, by writing, &c. No one can form any adequate idea of the efficacy of this plan for cultivating, disciplining, sharpening, strengthening, and improving each mental Faculty by itself, every kind of memory, and the mind as a whole. Its *trial* alone can attest how soon and how effectually you can substitute a perfect memory for your present poor one, and a bright intellect for your present dull, logy one.

THESE FACULTIES are non-transferable. None can either perform the function of Kindness, or any other; or supply its place. Those who have Acquisition small may desire money to leave their children rich, or to show off, or to aid the poor, or to furnish the means of acquiring knowledge; yet these motives neither excite this Faculty, nor enlarge its organ; because the first is an exercise of Parental Love; the second, of Ambition; the third, of Kindness; and the fourth, of Intellect. To exercise Acquisition, therefore, they must make and love money to possess and hoard—must love property to lay up, and for its own sake.¹⁶⁴ To eat, not because you relish food, but because a certain hour has come, is an exercise of Time, not Appetite. Fighting desperately from motives of honor, and not from love of fighting, is no more an exercise of Force, or Destruction, than the apparent fondness, in company, of husbands and wives who cordially hate each other, is an exercise of pure connubial love.

YOUR MODE OF PROCEDURE, then, consists in first learning from a reliable phrenological examination which of your Faculties *require* to be especially cultivated, and which restrained; next in learning the precise *nature* and function of each, which Phrenology teaches, and the future pages of this work will expound; and then in perpetually provoking your weak Faculties to action by thrusting their natural stimuli before them, in a form as acceptable and tempting to them as possible, through the intellectual Faculties, and avoiding whatever excites those in excess.

WHEN LOVE IS FEEBLE, read love stories, novels, and whatever

promotes it; but those in whom it is already too large should never touch a love story, or think or talk about the other sex, but ignore this subject; and so of the others.

INTELLECT is the natural exciter and quieter of all the other Faculties. It is installed the vicegerent over all, and their natural slave-driver, to whip up sluggish ones, as well as rein in those on the rampage, and guide all aright, — a principle we shall fully prove hereafter.

DEFICIENT HOPE can be cultivated by intellect perpetually telling it — “You look too much on the dark side; come, be encouraged, by fully appreciating that favorable prospect, and the other probable good: but in case of its excess, intellect cautioning it not again to mar its prospects by exaggerating them as it is wont to do, but to “dock” all its calculations, and *act* as if not half of them would be realized. Friendship can be nurtured by opening the heart to present friends, and thinking fondly of absent ones, as well as by recounting in memory the pleasant seasons enjoyed with them; and restrained by bringing the will into play to resist their persuasions and undue influences. In fact, intellect has the supreme power to provoke and allay the action of every Faculty by placing its natural stimulant before it, which rouses it.

SUBSEQUENT PAGES will detail this point by giving a full analysis of each Faculty, and then superadding the means for both provoking and allaying, cultivating and restraining each; thus reducing this self-improving *principle* to *practice*, besides teaching mothers just what motives, brought daily and hourly before this child and that will provoke this Faculty to action in this child, and properly guide that in another. All efforts at self and juvenile improvement, not guided by this science, must necessarily become either futile or else empirical; while all thus guided must therefore become successful and efficacious, beyond anything one can at all imagine.

LIFE is in every deed no trifle! Instead, it is all that its divine Author could render it! Its improvement constitutes the very highest of all human motives and achievements, and immeasurably augments all its enjoyments forever! Phrenology is its chief instrumentality, and as such becomes God’s mental and moral sun to man! Bask ye all in its life, joy, and virtue-promoting beams, and let it light up your pathways through earth to the boundless and endless mental and moral developments of eternal existence!

PART II.

HEALTH.

CHAPTER I.

ITS VALUE, FUNCTIONS, AND PROMOTION.

SECTION I.

ITS VALUE, ATTAINABILITY, AND GOVERNMENT BY LAW.

69.—VALUE OF GOOD, SOUND CONSTITUTIONAL HEALTH.

HEALTH CONSISTS in the normal and vigorous action of all the physical functions and organs; disease in their feeble, imperfect, or abnormal action; and death in their suspension. Life and health are proportionate to each other. Viewed in any and all aspects, HEALTH IS LIFE.

ITS VALUE, therefore, equals that of all else. It is our richest possession, because it alone imparts the greatest attainable zest and relish to whatever we possess. Without it, what can man, woman, child, or even bird or beast do, become, or enjoy? Other things being equal, our capacities for accomplishing and enjoying are proportionate to its vigor, but become enfeebled as it declines. No attainable amount of wealth, honor, learning, or anything else whatever can make us happy any further than we have *health* with which to enjoy them; and the value of all we possess diminishes in proportion as we become sickly. With how keen a zest those in health relish delicious foods and fruits, which only nauseate those whose diseases have destroyed their appetite. The rich invalid is pitifully poor, because he cannot enjoy his possessions; while all who are healthy are therefore rich, because their fund of life turns all surroundings into means of enjoyment.¹⁵ The healthy servant is richer, because happier than his

feeble millionaire master, and the robust peasant, than his infirm king! Those who have always enjoyed health, little realize its uses or value. As we admeasure time only by its loss, so none can duly prize the worth of health till it declines. Brought to the gates of death, our last hour come, what would we give, what *not* give, for another year of life and health, with all their pleasures! *Millions* would be cheap, because health is so immeasurably more promotive of happiness, that only measure of all values,¹⁵ than riches, than all else combined. To all, in all conditions, it is life's pearl of greatest price!

THIS TRIFLING with health, so almost universal, how consummately foolish? Esau's folly was wisdom in comparison with theirs who, in sheer carelessness, exchange a lifetime of vigor for one of feebleness. And some barter away life itself for some momentary indulgence! A foolish ambition breaks down constitutions by thousands. Unwilling to be outdone, they work at the top of their strength just as long as they can stand, or overheat themselves, or drink cold water while too warm, or in one way or another bring on in a day or week complaints which debilitate them for life, and hurry them into premature graves!

A GOOD STAMINATE CONSTITUTION therefore becomes about as valuable as that life it manifests. Since good eyes are as valuable as are all the knowledge and happiness they impart, and thus of all the other individual organs,¹⁵ of course the value of a good body over a poor one is measured by all the increased powers to enjoy and accomplish it gives. By over-driving, or foundering, or injuring a splendid horse, you take his zest and snap out of him ever after. Before, he needed no whip, after, he performs much less *with* one than before without. That one injury diminished his *power* to accomplish one-half or two-thirds, and made him an old horse in constitution, though young in years. So when your own constitution is once sapped, farewell to half or more of your life zest, capacities, and enjoyments!

AN AMBITIOUS YOUTH, just to finish cradling before his neighbor, worked to complete exhaustion, and finished a few hours the soonest; but in doing so *lamed his side for life*; contracted a two months' sickness, from which he barely recovered with his life, but with a *broken-down constitution*, so that he has since been able to do but little work, and many kinds not at all; besides suffering perpetual pain these thirty years since! That single day's work did him vastly more injury than any fortune could ever do him good; because it inflicted on him much more pain than any amount of money could ever give him

pleasure.¹⁵ It weakened all his capacities to do and enjoy, besides enhancing all his sufferings, *for life*, which it will shorten many years. He received no extra pay for this destruction of health, yet sacrificed an incalculable amount of happiness and life on the altar of a foolish emulation! But like instances of like folly—folly? the worst form of *wickedness*—are common. What reader of thirty, if not of twenty, by some abuse of health, has not impaired it forever! How many, in how many ways, wickedly squander it, without receiving any return for this choicest of all our life possessions!

A PRIME BODY is a richer treasure than weakly monarchs possess. Ladies, *first* see to it that you have good bodies for your dresses; because a good body poorly dressed is worth a thousand fold more than a poor one splendidly attired. And the time is “at hand” when a lady’s “ton” will depend far more on how good her body is, than on how well she dresses it.

BUSINESS men, speculators for a rise, know ye that a splendid *physique* is the finest *piece of property* you will ever own, while injuring it will entail on you a loss far greater than any other ever can be. This year you have added fifty thousand dollars to your coffers, but in doing so have worn in on your organism,²⁶ and thereby lost more than twice fifty thousand dollars *worth of life-force*. A little animal power is more valuable than dollars can admeasure, and yet men and women treat it as they do sole leather—to be worn out by all manner of hard usage, and worth no more than old boots.

THE GREAT LIFE ART is preserving and improving a good organism, if we have one, and recuperating and reinvigorating whatever we do have, be it more or less, and should take precedence over every other life end and pleasure. Stop instantly whatever interferes with it, and do anything, everything to augment it.

HEALTH IS A FORTUNE at interest, the income from which, economically used, will support you; but it cannot be squandered at any period through life, without being brought into the final account, and shortening and enfeebling it in exact proportion. Spending foolishly draws on the principal, and every draft, great and little, must be reckoned into that last settlement which every draft hastens. As the faster you draw the sooner you exhaust it; so all over-eating, over-working, loss of sleep, improper habits, colds, and whatever injures health, is a draft on the constitution, cashed at a hundred per cent. discount, till, when your life-fund is expended, but not till then, death summons you to your final reckoning. Every abuse of health en-

feebles it for life, and hastens its close. Ho! O youth! ho all, be entreated to consider the infinite value of health, and the proportionate importance of its preservation, before you learn its worth by its impairment! Compared with it, millions are trash. Even all else without it is dross. Gain whatever you may by impairing it, you are an infinite loser; but lose what you may in its preservation or restoration, you gain more than by acquiring fortunes, or even crowns, and worlds! And how mean one feels and acts when feeble!

If you would succeed in life, PRESERVE HEALTH.

If you would get rich, make HEALTH PARAMOUNT.

If you would enjoy animal luxury, PRESERVE HEALTH.

If you would acquire knowledge, TAKE NICE CARE OF HEALTH.

If you would become great or good, vigorous health is first.

If you live to do good, preserve health, for what good could you do if sick or dead?

If you would always be "on hand" for business, pleasure, work, whatever may turn up, secure PERFECT HEALTH.

Whatever may be your life-end or motive, make the PRESERVATION OF HEALTH your FIRST BUSINESS, as it is your indispensable instrumentality of all else.

SICKNESS IS COSTLY. As a pecuniary investment, nothing *pays* the right way like health, nor the wrong like disease, which both stops your wages, if you labor; or if in business, takes you from it and compels you to intrust it to others, always disastrous; besides creating heavy expenses for doctors, nurses, medicines, and a thousand incidentals. How many, now poor, would have been rich, if they and their families had always been well!

SICKNESS IS PAINFUL. See that sick child. How forlorn and woe-stricken its looks! Mark rheumatic or gouty victims. Every motion is painful, and most of their sources of pleasure are converted into wormwood! Behold that wretched victim of disease lying prostrate on a sick bed! Torn from business, society, and all the enjoyments of life, and racked with pain! The boiling blood courses through his veins, swollen almost to bursting. Hear his piteous wail—"My head, O my head!" See those eyes rolling in agony! Open the windows of his soul, and behold his struggle for life in the midst of death, his horrid dread of which far exceeds the torturing pains of disease! Hear him pant for breath! Witness that gurgling in his throat! Behold the last agonizing struggle between life and death, and that final giving up of the ghost! What is more dreadful

than sickness! What horror of horrors at all compares with that most awful scene experienced on earth, premature death! from which may God deliver us. Rather, let us all deliver *ourselves*, by PRESERVING OUR HEALTH.

70.—HEALTH ATTAINABLE: AND ITS AMOUNT POSSIBLE.

HEALTH IS SPONTANEOUS, is our normal state. To preserve it, we are not obliged to do some great thing, nor go on a painful or costly pilgrimage, nor even to practise the least self-denial, but only not to *abuse* it. Let Nature "have her perfect work," and she will furnish it all ready at our hands. It is simply the perfect operation of all her organs and functions, which she has taken the utmost pains to secure. Behold the labor she has bestowed to construct the body with a degree of perfection attainable only by *infinite* Skill and Power! Since these organs are thus infinitely perfect, are their functions less so? Was not this structural perfection devised expressly to secure corresponding perfection of function? Else what is its use? Unless deranged or prevented by violated law, every organ will go on from the beginning of life, until worn out by extreme old age, to perform its office with all the regularity of the sun, and with a power commensurate to any demand compatible with the laws of our being. To argue that health is *spontaneous*, and as natural as breathing, or eating, or sleeping, is, in fact, only these and other functions in their natural and vigorous action, is attempting to prove an axiom, or that we see what we see. Allowed their natural play, all the organs will go on perpetually to manufacture life, health, and happiness, which, unless their flow is arrested by violated law, will flow on as freely and spontaneously to every human being as the river to its own ocean home. A boy once inadvertently whistled in school:—

"*Angered Teacher.* 'John, you rogue, what made you whistle?'

"*Boy.* 'I didn't, master; IT WHISTLED ITSELF.'"

IT BREATHES ITSELF, sees itself, moves itself, sleeps itself, digests itself, thinks and feels itself, *everything itself*; and breathes, sees, thinks, feels, everything exactly *right*, whenever the proper conditions are fulfilled. Is it difficult to breathe? or to breathe right? or enough? or wholesome air? Rather, it is exceedingly difficult *not* to breathe, or breathe too little, or a noxious atmosphere. Is it hard to eat? or enough? or what is healthy? Yet the converse is always difficult. These illustrations apply to every other function of the body.

Every organ is constituted to commence its normal and healthy action from the first, and perform it spontaneously throughout life; and that to a much greater age than any now attain. Indeed, it requires great, or else long-continued *violence*, to arrest their healthy and pleasurable functions at any time between birth and death. Hence there is no more need of our becoming sick, or of these functions being enfeebled or disordered, than of our shutting our eyes for weeks together, or refusing to breathe, or move, or preventing any other function by force. The human constitution has a power to resist disease perfectly astonishing. How many readers have abused it outrageously, hundreds of times, with comparative impunity; and even after they have thus broken it down, have still endured sickness and suffering till they wonder that they yet live! What yours now have been if you had promoted instead of abusing it! How many hardships could you once endure! How much it took to break you down! None realize how much they outrage it. Every day and night, almost hour, we do something more or less detrimental to it—stay in-doors too much; or remain much in heated rooms; or exercise too little; or else labor too much, or not exactly right; or sleep in close rooms; or over eat, or eat what is injurious, or at least a diet less beneficial than some other things; or overtax the mind, or perhaps exercise it too little; or sit in an unwholesome posture; or neglect the skin; or dress too warm; or take cold; or one or another of those ten thousand kindred things, more or less injurious to it, which all perpetrate almost perpetually. All this, in addition to those extreme imprudences of which almost all are frequently more or less guilty. And yet, in spite of all this abuse of it, see how healthy many remain, often eighty or a hundred years! Alcohol and tobacco poison the human constitution;¹²³⁻¹²⁶ yet see how many consume them daily, often to drunkenness, for thirty, and even fifty years, without destroying their health, though they greatly impair it. See what poisonous drugs some will swallow, and yet live! In short, Nature has done her utmost to bestow vigorous and uninterrupted health on every member of the human family, and to ward off disease and prolong life. Behold and wonder at the physical stamina and energy provided for by her, and then say whether every human being is not constituted for health. Even admitting that children often inherit diseases from parents, yet the fact that parents have health sufficient to become parents, is abundant proof that their offspring, by a careful observance of the health laws, can both ward off their inherited predispositions,⁸⁶ and enjoy excellent health to a good old age.

BEHOLD THAT STERLING BOY! See him race and jump, run and tear, with might and main, from morning till night, literally just crazy with action, and boiling over perpetually with life! It would seem as if health were literally bursting through every pore of his skin, and venting itself on this, that, and the other, but on something continually. What is all his mischief but health expending itself! See what bounding elasticity of step! What snap in every motion, as if all his muscles were taut with energy and power! His voice, how shrill, how powerful! When he works, see how he "puts right in;" when he plays, just see how much life-power he throws into every motion. See him now, mounted on top of that tall tree, next on the ridge poll of that building! Did you see that jump down! Would you not expect it to crush every bone in his body! But no; see him spring instantly to his feet, and bound off like a deer in some new ebullition of animal vigor and power!

"Wall, I *du* declare, I *should* think our Jonny *would* get tired *tu* death sometime!"

"TIRED!" There is no such word in *his* dictionary. Is he not a literal marvel of activity, power, endurance, and all the indices of perfect health!

WHAT! That mere boy healthier, more efficient, aye, even more *enduring* than that fully-developed *man*! Not yet one-third grown, nor half matured, his bones yet in their gristle, his muscles *growing*, not yet grown, to the man what summer twig, still soft and brittle, is to that hardened, full-grown limb! All this but the merest *beginnings* of what he can and will become if he simply fulfils the health laws of his being!

YOUNG MEN AND MAIDENS, you little realize how full to overflowing with health, glow, ecstasy, and animal power you are capable of becoming. You should be as far removed from sickness as the North pole is from the South, and as much above it as the heavens are above the earth! Every single one of you should be as much spryer, more athletic, robust, glowing, strong, and rampant with life as you are older; and all middle-aged persons stronger, tougher, hardier, healthier yet! And retain all till past seventy. Behold how hale, hearty, and enduring of hard work many old people are! And yet even they might have *been* much more so but for their life-long violations of many health conditions. Though fortunately they were not sufficient to break them down. In short, literally and truly—

ALL SHOULD FAIRLY ACHE with surplus health and vitality, all the way up from the cradle to "three score years and ten," and then gradually sink like the setting sun into twilight's balmy shades, without an ache, or pain, or even weakness; conscious only of the still increasing pleasures of existence, and scarcely knowing when they breathe their last! And death itself the crowning *luxury* of life! Yes, literally a *crowning LUXURY!*"¹⁶⁹ Thus, O ye who live, hath God made man physically!

WORKMEN might labor "from early morn till late in e'en" without one thought of fatigue, and from puberty till eighty, performing ten times more hard work than now, and in perpetual delight, not in weariness or pain.

BEHOLD THAT CALIFORNIA HORSE galloping nimbly in from a *hundred and twenty mile stretch*, without food or rest, and surmounted by a *two hundred pound rider!*

BEHOLD THAT FALLOW-DEER, moose, or reindeer! Far to the north; the winter temperature generally below zero, and often below forty; without shelter or fire; snow many feet deep, and food poor and scant; what physical stamina is required even to keep alive through an eight months' winter! And yet, attacked by that fierce pack of ravenous wolves, he bounds off, seemingly as light as a feather; runs many miles per hour, day in and out, night in and out. He finally stands at bay, and smites now one and then another of his fierce pursuers dead with one blow of his still powerful fore leg. And if at last, taken unawares, he succumbs, how perfectly amazing the energies he first puts forth! as is also that of his hungry pursuers. Like illustrations hold true of all wild animals, lions, tigers, hyenas, wildcats, elephants, zebras. But why specify any, since all are about equally robust? What wonders our domestic animals, despite all the abuses suffered at the hands of careless or heartless taskmasters, endure and accomplish!

DOES GOD CONFER this "greatest good" more bountifully on beast than man? Every single fact and principle in the natural history of both, thunder "No." Is not his entire physical organism better, and every way more perfect, than theirs? In what else is he their inferior? Then why should he be in health? Is he not God's special *favorite?*

HUMAN FACTS shall decide. Are wild Hottentots, Moors, Arabs, Indians, etc., less powerful or enduring than moose? Let Black-hawk's account of his long marches, and his feats of endurance and

privation, answer. Keokuk had a physique of marvellous power and endurance. What splendidly "made up" men are the Comanches! We shall yet give facts bearing on this subject, but the natural robustness of the human constitution is apparent without. All children having sufficient natural health to be born alive, can grow stronger and more healthy every year, up to life's full meridian; and then retain it till they die of sheer old age. Only a long outraging of the health laws ever prevents this delightful result. Sickness and premature death constitute no part of Nature's ends. Instead, both are abnormal; are *punishments* for infringements of the laws of health, and, of course, avoidable by obeying these laws. No wonder that men, women, and children are sick, and die thus suddenly and early, considering how perpetually they violate the health prerequisites. Their enduring so much with comparative impunity, only shows how perfectly healthy conformity to them would render all.

71.—DISEASES CURABLE: HYGENE BETTER THAN MEDICINES.

MOST CIVILIZED persons are more or less ailing or diseased. To say how many and how much, is utterly impossible; for no language can depict either the number or the aggravation of human maladies. Those who are *down* sick constitute only a very small proportion of those who are more or less enfeebled, or disabled, or have this weakness and that ailment, and yet keep about. They work on, indeed, but in perpetual pain. Even those called perfectly well fall far below the standard of physical vigor possible to them.⁷⁰

A REMEDIAL PRINCIPLE is incorporated into the human constitution. Health is restorable, and disease curable, to a degree far exceeding our most sanguine hopes. Abnormal action always flexes towards normal. Nature invariably seeks to *right up* all wrong functions. Pain itself is a curative process.²³ The existence of remedial agents is not a matter of doubt, but is an experimental *fact*. Nature might justly have left all broken bones, severed nerves and blood-vessels, and all other results of violated natural law, in whatever state they might have occurred; whereas our infinitely benevolent Father has invented *remedies*, and made provision for re-uniting broken bones, and ruptured blood-vessels, repairing lacerated muscles and nerves, and restoring debilitated and disordered functions. Regaining health is possible, though much more difficult than its preservation. Whilst an ounce of its preservation is worth more than pounds of cures of disease; yet Nature's recuperative provisions are

indeed marvellous. Her restoratives are neither few, nor feeble, nor restricted. Though she punishes some violations of her health laws, such as an amputated head, a pierced heart, etc., with death; yet most diseases, if taken in season, and managed rightly, can be cured or mitigated. Rank poisons can be neutralized or expelled. Fevers are a curative process.²³ In fact, pain signifies that the system has life enough left to undertake restoration. "While there is life, there is hope."

THE VICTIMS laid low in death by allopathy, despite the curative powers of Nature, and those walking wrecks whose constitutions it has ruined, should warn the well to keep well, and the sick to try some other, *any* other mode of cure, in preference; as well as make its practitioners pause and tremble at its many fatal results. How can they hold up their heads as honest, straightforward men? And the facts that so many of them are turning homœopathists, hydropathists, eclecticpathists, etc., and all giving so little medicine now, when they once gave so much, prove that their *own* faith in its virtues is waning. Patients had better let nature alone, than incur all this life and death *risk*. Doing nothing surely cannot be worse.

DOCTORS often pronounce death on patients who afterwards recover. Nature has taken the utmost pains to so vary her remedies as to heal most of the ills to which man is subject. Some restoratives act as if by magic; and in most cases are found in those particular *localities* where the diseases they cure abound. As, wherever any poisonous serpent crawls, there grows some weed specifically adapted to cure the venom of its bite; so we may look for some antidote to fever and ague, rheumatism, consumption, etc., in their localities; so that *home* remedies will generally be found better than imported.

HE WHO SHOWS MEN how to *keep* well will be the greatest benefactor of the race, while he who shows all how to *get* well is next. Of course this direction is most important. Diseases teach us the value and laws of health, and Nature then teaches us how to cure them. All are most deeply interested practically in the problem, How can diseases be cured, and health restored?

NOT BY MEDICINES mainly. Men generally think them their only curative reliance, especially in extreme cases. All run at once to the doctor and to the apothecary shop, as if their very life depended on their speed. Do such ever stop to consider just *how* medicines act? They may purge the alimentary canal, and infiltrate themselves throughout the body by means of the blood; but do they mend mus-

cles, nerves, and organs ; scrape up and eject disease ; or change the organic particles ? All this, and much more, is the *exclusive* work of Nature. Work thus delicate she alone can execute. Medicines may neutralize poisons and acids, and supply Nature with required materials, but this is about all.

MINERAL medicines are especially noxious to life. What ! actually *poison* the system in order to cure it ? Shall we destroy life to enhance it ? Does that which is constitutionally hostile to it promote it ? This is perfect nonsense, and in the teeth of every principle of Nature. Besides, her entire economy is *pleasure*, never pain,¹⁵ while poisons generally cause pain, besides being nauseous to the taste, which of itself condemns them. As those kinds of food which the system requires relish best,⁹³ so we shall *crave* what medicines we require. The curative process is constitutionally pleasurable, never painful. So treat a wound as to heal it in the best manner possible, and it will feel good and comfortable. Only what interferes with its restoration occasions pain. And this law holds true of all forms of convalescence. This new view of the restorative process is true, theoretically and practically.²³ Shall obeyed law give us pleasure, and a return from transgression to obedience necessarily occasion pain ? Does anything but violated law cause suffering ?²¹ Of course, then, medicines bitter to the taste or painful in their operation, Nature condemns in and by the very pain they occasion. Since obedience to law is followed by pleasure, therefore whatever the system requires will give only pleasure. What medicines it needs it will *crave and love*. Not that nothing bitter should never be taken, but that, when required, bitterness itself will be sweet. Otherwise Nature inflicts pain to secure pleasure ; which she never does. Her motto is, *all good, no evil*. Any other view of her misrepresents and belies her ; or, rather exposes him who makes it. Though she often brings good out of evil, and makes even the wrath of man serve her, yet she brings still greater good out of all good. Our shortest and surest road from sickness to health, therefore, never conducts us through what is repulsive or painful, but only through what is pleasurable. This fully established principle unequivocally condemns :—

POISONS, CALOMEL, AND DEPLETIONS. The very principle upon which they act is their destruction of life. Taken in health, they induce sickness ; then how much more aggravate it ? And their reputation for curing diseases is due mainly to abstinence from food, perspiration, and emptying the stomach, all of which can be effected

by processes entirely harmless. Their effect upon the teeth alone brands them with unequivocal condemnation; for whatever injures them, first disorders the stomach. Their decay foretokens incipient dyspepsia. Hence, since they are always impaired by these medicines, of which all who take poison are living witnesses, they of course always enfeeble the stomach.

CALOMEL powerfully stimulates the liver, but stimulates by *poisoning* it. Hence liver affections almost always follow its administration—always, except when both stomach and liver are extra powerful. Mandrake root, made into pills, or steeped, and the decoction drunk, touches the liver as effectually as calomel, yet leaves no poisonous after-claps. Tomatoes also promote liver action, as do quassia, hops, columbo root, ginseng, etc. Then why not provoke that action by these innocuous vegetables, which do not, like calomel, expose, by taking cold, to life-long suffering? Dyspepsia follows its use almost as surely as sunrise daylight, because induced thereby. Let observation, the more extensive the better, pronounce the verdict. Language can never adequately portray its ravages on health and life.

“GENTLEMEN: If you could see what I almost daily see in my private practice, persons from the South, in the very last stages of wretched existence, emaciated to a skeleton, with both tables of the skull almost completely perforated in many places, the nose half gone, with rotten jaws, ulcerated throats, breaths most pestiferous, more intolerable than poisonous upas, limbs racked with the pains of the Inquisition, minds as imbecile as the puling babe, a grievous burden to themselves, and a disgusting spectacle to others, you would exclaim, as I have often done, ‘Oh, the lamentable want of science which dictates the abuse of that noxious drug, calomel, in the Southern States!’ Gentlemen, it is a disgraceful reproach to the profession of medicine, it is quackery, horrid, unwarranted, murderous quackery. What merit do southern physicians flatter themselves they possess by being able to salivate a patient? Cannot the veriest fool in Christendom salivate—give calomel? But I will ask another question. Who can stop its career at will, after it has taken the reins into its own *destructive and ungovernable hands*? He who, for an ordinary cause, resigns the fate of his patient to mercury, is a vile enemy to the sick; and if he is tolerably popular, will, in one successful season, have paved the way for the business of life; for he has enough to do ever afterwards to stop the mercurial breach of the constitutions of his dilapidated patients. He has thrown himself in fearful proximity to death, and has now to fight him at arm’s length as long as the patient maintains a miserable existence.”—*Professor Chapman*.

“They affect the human constitution in a peculiar manner, taking, so to speak, an iron grasp of all its systems, and penetrating even to

the bones, by which they not only change the healthy action of its vessels, and general structure, but greatly impair and destroy its energies ; so that their abuse is rarely overcome. When the tone of the stomach, intestines, or nervous system generally, has been once injured by this mineral, according to my observation, it can seldom afterwards be restored. I have seen many persons to whom it has been largely given who, before they took it, knew not what indigestion and nervous depression meant only by the description of others ; but they have since become experimentally acquainted with both ; for they now constantly complain of weakness and irritability of the digestive organs, of frequent lowness of spirits and impaired strength ; all of which they will ever experience. Instances of this description abound. Many of the victims of this practice, are aware of this origin of their permanent indisposition, and many more who are at present unconscious of it, might here find, upon investigation, a sufficient cause for their sleepless nights and miserable days. We have often had every benevolent feeling called into painful exercise, upon viewing patients already exhausted by protracted illness, groaning under the accumulated miseries of an active course of mercury, and by this forever deprived of perfect restoration. No words can sufficiently describe the inconsistency, folly, and injury of this barbarous practice."—*Dr. Graham, of Edinburgh.*

This is the testimony of its *friends*—of distinguished members of the medical *faculty*—and is true of the *principle* on which calomel and all mineral poisons act. And the more virulent the poison, the worse. Those who take them may recover, yet it will be in *spite* of both disease and medicine ; but their recovery will be slow, and constitutions impaired.

IT WRECKS VENEREAL patients, however, the worst. The combination within the system of this virus *with* calomel, just about uses up the life force, and ravages the organism far worse than either taken separately. Far better let that virus, terrible as it is,⁴⁴⁵ ravage the organism all it may, than try to neutralize it by calomel ; because those two life antagonists *united* produce effects far more deadly than either alone. We commend this declaration to both the medical profession, and this class of patients.

THE VEGETABLE KINGDOM furnishes most required medicines, and since some are there, why not *all* ? Since Nature has prepared them all ready at our hands, why resort to art ? Can man compound and prepare them better than his Maker ? The simple fact of the existence of vegetable remedial agents already prepared, shows that we must not take Nature's work out of her own hands. Does the laboratory of art surpass that of Nature ? And since she undertakes to cure, why not *trust* to her mainly ? Why not, after furnishing her

with the right materials and conditions, *let her mostly alone?* She does well whatever she undertakes.

THE POWER OF CONSTITUTION yet remaining effects this recuperation; those having good ones obviously recovering much faster and more fully than those with weak.⁶⁹ But our purpose is rather to state the *possibility* of such restoration than to discuss its "ways and means," which will be done hereafter.

72.—SICKNESS AND DEATH GOVERNED BY LAW, NOT PROVIDENCE.

"O! but health and sickness, life and death, are wise yet mysterious dispensations of Divine PROVIDENCE. 'The LORD killeth, and maketh alive; HE bringeth down to the grave, and bringeth up.' Our days are all numbered, so that we *must* die at our appointed time."

DOES LAW, OR CHANCE, govern the world?¹⁹ Does every effect have its cause, and every cause its effect? or does this most important of all effects occur without cause, by "Providential interposition," perhaps in the very teeth of causation? Does God violate His own laws? This doctrine is preposterous, false in fact, injurious in its consequences, subversive of all causation, conceived in ignorance, and brought forth by bigotry! Our world is governed throughout *only by law*. All is cause and effect.¹⁹ We see, feel, and know that *some* causes promote health, while others retard it; certain causes always occasioning death, and others averting it. If sickness and death are providential, why ever give medicine to remove the former, or prevent the latter? What! vainly and impiously attempt to arrest by medicine a dispensation of an all-wise *Providence*! Fear and tremble lest He smite you dead for giving remedies to thwart His unchangeable decrees!

SICKNESS AND DEATH, irony aside, are no more providential than is the rising of the sun, or any fixed operation of nature, but the legitimate and necessary *effects* of their procuring causes. None practically consider them as providential, but all treat them as effects, in their very attempts to obviate them by removing their causes. All mankind *do* something—apply *causes* to the relief of pain and prevention of death, as spontaneously as they breathe. What stronger evidence could be required or had that all instinctively *feel and know* them to be *effects* governed by causation! Are deaths caused by poisoning or shooting providential! Then are all the operations of Nature equally providential. Call them *caused* providences if you will, but they are *effects*. We often know by *what* causes particular

sicknesses and deaths were produced, and are all internally conscious, that highest order of proof, that they *are* effects, equally with all the other operations of Nature. To argue this point is to argue what is self-evident. To suppose that a single glow of health or twinge of pain is not an effect, but a providence, is supposing that this incalculably important department of Nature is without the pale of causation and law—a doctrine utterly untenable.¹⁹ His Causality must be feeble, and mind weak or unenlightened, who entertains a doctrine thus hostile to all order, and to universal Nature.

OCCASIONAL PROVIDENCES are impossible. The doctrine that they are sometimes providential, and sometimes caused by violating the organic laws, is equally irrational with supposing that the sun rises one day in obedience to the fixed laws of gravity, and another by “special providence,” wholly without means; and thus of all the other operations of Nature. Does the Deity trifle thus! Does He half do, and then undo! Does He ever begin without completing! Does not that same utility and even constitutional *necessity of things* which renders it best that sickness and health, life and death, should be caused in *part*, as we know they are, should also be caused IN WHOLE! The principle that whenever a part of a given class of operations, as of seeing, motion, and the like, are governed by causation, that entire class is governed by the same law, is a universal fact throughout nature.¹⁹ That causation governs sickness and death in part is self-evident: therefore all sickness, all death, premature and natural, are equally the legitimate and invariable *effects* of violated physical laws. In one sense they may be called “divine chastisements,” because they are consequent on breaking the divine laws, but in no other. Both reason and fact impel us to this conclusion. No middle ground remains; in fact, no ground but to ascribe all health and sickness, life and death, to inflexible causation. How strange that moral and intellectual leaders and teachers, pseudo “*educated*” men even, should entertain and promulgate a doctrine as injurious and utterly absurd as that sickness and premature death are providential!

COUNTLESS THOUSANDS kill themselves or children, often with kindness, and then throw all the blame off from their own guilty heads, by ascribing all to “divine Providence!” What downright blasphemy! Though being clerically exhorted to “submit to this afflictive dispensation meekly, trusting that this chastening rod of your Heavenly Father may teach you resignation to His will,” may console the sick more than being reproved for their having inflicted

this distress on themselves and inconvenience on others by breaking Nature's health laws; yet the latter would tend to *prevent* future sickness by inculcating subsequent obedience.

"But, Professor, these views really shock our most sacred feelings."

THEN RECTIFY your "most sacred feelings," till they will not *be* thus shocked by truth. Telling the Turk that Alla is no God, would shock his "most sacred feelings," because they are wrong. Telling the idol-worshipping Chinese that their brazen images are *only* brass, would shock their sacred feelings. Our sacred, and all our other feelings, should be guided by *reason*.²⁰⁰ All "sacred" prejudices *ought* to be shocked, till they are abrogated.

A BALTIMORE GIRL, told if she would hang up her stocking, Santa Claus would fill it with good things, did hang it up, and Santa Claus, or some other claws, did fill it. Calling for her stocking the moment she awoke, it was tossed upon her bed, when she greedily ate down its entire contents of almonds, raisins, nuts, candies, cakes, etc.; ate a hearty breakfast; was plied with titbits between breakfast and dinner; and an hour after was taken with convulsions, and in another hour *died*. Though a post-mortem examination demonstrated that the unchewed raisins eaten in the morning had dammed up their passage and caused her death by swelling, yet the pious Rev. Dr. Musgrave preached her funeral sermon from the text: "The Lord gave, and the Lord hath taken away" from evils to come, ascribing this afflictive bereavement to a merciful *Providence*, sent to wean stricken parents from earth, and prepare them for heaven! What sacrilege! what falsehood! thus to charge the Almighty with killing this dear child, when the post-mortem examination *proved* that its careless *parents killed their own child* by giving it the raisins, just as much as if they had unwittingly given it arsenic! If, after stating the coroner's verdict, he had said, substantially, "Behold, O weeping parents, and all, in this cause of this child's untimely death, a warning to feed your still living children aright, so as to save them from premature death"—if all ministers would make the known causes of the early death of the corpse before them an occasion for warning the living not to hasten their *own* death by a like disease, there would be few deaths this side of a worn-out old age. Teaching men that nothing but violating the natural laws can possibly occasion sickness or premature death, especially juvenile, will enforce, by the most powerful of all motives, the study and observance of these laws,²⁴ and

thus ward off sickness and preserve life; but these false consolations lull parents and destroy children by scores of thousands annually! Mankind need, and *will some day have*, a new set of funeral sermons, *instructing the living how to live*.

DR. REESE, Methodist Episcopal Bishop of Maryland, after listening in a public lecture to the preceding story, was introduced to the Author, when the following dialogue occurred:

"BISHOP, I fear, these views of special Providence conflict with your own religious ideas and feelings on that subject."

"NOT AT ALL, Professor, for I believe many delicate ladies, accustomed to high dresses and covered arms, array themselves for a ball or party in low dresses, short sleeves, and thin slippers; dance to complete exhaustion; carelessly expose themselves while going home tired after profuse perspiration; catch a severe cold, which of course strikes to their throats and lungs; and die of quick or slow consumption in consequence; when a 'Lord's will' sermon is preached at their funerals, whereas it should be—*committed suicide* with low dresses and thin slippers. *Natural effects are not special providences.*"

BE ESPECIALLY CAREFUL, first, to ascertain whether "the Lord" *did* kill a given child or an adult before thus *accusing* Him of doing so. To charge Him with killing those who were killed or kill themselves by breaking His health laws, is pious yet profane blasphemy, as horrid as man can well perpetrate. Hear Mrs. Sedgwick on this point:

"WAS IT PROVIDENCE? Take, for example, a young girl bred delicately in town, and shut up in a nursery in her childhood,—in a boarding school through her youth,—never accustomed to air or exercise, two things that the law of God makes essential to health. She marries; her strength is inadequate to the demands upon it. Her beauty fades early. She languishes through her hard offices of giving birth to children, suckling and watching over them, and dies early. 'What a strange Providence that a mother should be taken in the midst of life from her children!' Was it Providence? No! Providence had assigned her threescore years and ten; a term long enough to rear her children, and to see her children's children, but she did not obey the laws on which life depends, and of course she lost it.

"A FATHER, too, is cut off in the midst of his days. He is a useful and distinguished citizen, and eminent in his profession. A general buzz arises on every side: 'What a striking Providence!' This man has been in the habit of studying half of the night; of passing his days in his office or in the courts; of eating luxurious dinners, and drinking various kinds of wine. He has every day violated the laws on which health depends. Did Providence cut him off? The evil

rarely ends here. The diseases of the father are often transmitted; and a feeble mother rarely leaves vigorous children behind her.

"YOUNG LADIES in some of our cities often walk in thin shoes and delicate stockings in mid-winter. A healthy, blooming young girl thus dressed in violation of Heaven's laws, pays the penalty in a checked circulation, colds, fever, and death! 'What a sad Providence!' exclaim her friends. Was it Providence, or her own folly?

"A BEAUTIFUL YOUNG BRIDE goes night after night to parties, made in honor of her marriage. She has a slightly sore throat; perhaps the weather is inclement; but she must go with her neck and arms bare; for who ever saw a bride in a close evening dress? She is consequently seized with an inflammation of her lungs, and the grave receives her before her bridal days are over. 'What a Providence!' exclaims the world. 'Cut off in the midst of happiness and hope!' Alas, did she not cut the thread of life *herself*?

"A GIRL IN THE COUNTRY, exposed to our changeful climate, gets a new bonnet instead of getting a flannel garment. A rheumatism is the consequence. Should she sit down tranquilly with the idea that Providence has sent the rheumatism upon her, or should she charge it on her vanity, and avoid a like folly in future? Look, my young friends, at the mass of diseases incurred by intemperance in eating and drinking, in study or business; by neglect of exercise, cleanliness, and pure air; by indiscreet dressing, tight-lacing, etc.; and all is quietly imputed to Providence! Is there not impiety as well as ignorance in this? Were the physical laws strictly observed, from generation to generation, there would be an end to the frightful diseases which cut life short, and of the long list of maladies which make it a torment or a trial. It is the opinion of those who best understand the physical system, that this wonderful machine, the body, this 'goodly temple,' would gradually decay, and men would die as if falling asleep."

LORD PALMERSTON, the great English Premier, when petitioned by the Scotch clergy to appoint a day for fasting and prayer, to avert approaching cholera, replied, in effect:

"CLEAN YOUR STREETS and disinfect your houses; promote cleanliness and health among the poor; see that they are plentifully supplied with good food and raiment; and employ right sanitary measures generally, and you will have no occasion to fast and pray: nor will the Lord hear your prayers while these His preventives remain unheeded."

LIFE AND HEALTH, sickness and death, are invariably the legitimate *effects* of their specific causes. Nature's health laws reign as supreme as any other. From them there is no appeal, and to them no exception.¹⁹ Observing them renders health just as sure as the rising of the sun; because both are equally governed by inflexible causation.

73.—HEALTH A DUTY: SICKNESS AND PREMATURE DEATH SINFUL.

THE SOLEMN AND IMPERIOUS DUTY of all is to preserve it if good, and regain it if impaired; otherwise, there is no such thing as oblige-

tion ; because we can discharge no duty and accomplish no end without it, and only in proportion to its vigor. Is it not our duty to do good, worship God, love and provide for family, reason, enjoy the bounties of Nature, and exercise all the powers and Faculties God has graciously bestowed upon us ? If it is not sinful to impair these divine gifts by debility, or bury them in a premature grave, then nothing *can* be sinful. Is it not our duty to give our fellow-men pleasure instead of pain ? Is it not then wrong to subject them to all the care and weariness of watching around our sick bed, and to all the anxiety consequent on our sickness ? And is it not almost the climax of crime to break down the spirits of dear friends, especially of our own families and companions, with anguish by our death, whereas we might, by obeying the laws of health, gladden them with our friendship, support them by our labor, sustain them by our sympathies, and guide them by our counsels !

THE PAINS accompanying disease and death, constitute the highest order of proof that they are sinful ; because no pain can ever exist except induced by violated law,²¹ and violating law is sin itself.¹⁹ Avoid sinning and you escape suffering ; but all suffering is the consequence of sinning. The very painfulness of sickness is therefore the witness of its sinfulness. Sickness is caused by violating the laws of health. Such violation, *all* violation, of law, is wrong ; therefore all sickness is sinful, and the pain consequent is its penalty. Health is the ordinance of nature,⁷⁰ and the great instrumentality of performing every other obligation, and therefore our first and highest duty to our fellow-men, ourselves, and our God—to our fellow-men, because we cannot discharge our obligations to them without it, and our sickness wrongs them by occasioning them pain ; to ourselves, because we can perform no duty, and enjoy no blessing, without it ; and to our God, because we are under the most imperious obligation to obey His laws,²⁰ those of health, of course, included. Ye who demur, say what “divine right” have you to violate God’s laws ! Show “indulgences” from the court of heaven, granting permission to trample on divine ordinances, or else admit such trespass and its consequent sickness to be wicked. None have any business to *be* sick !

PREMATURE DEATH is still more sinful, because occasioned by a yet greater violation of law ; is indeed the chief of crimes. Is not suicide most wicked ? Yet it consists in this same breach of these same laws, the breach of which causes premature death. Since to shorten life by self-murder is a sin of the highest grade ; shortening it by in-

injuring health, is equally wicked; because both result precisely alike, namely, in the destruction of life; and by similar means, namely, a breach of the health laws. Unless we have a divine "right" to commit suicide, gradual or sudden, we have none to incur premature death; and since suicide is most heinous, by so much, and for precisely the same reason, is inducing death by the careless exposure or wanton injury of health equally wicked. The extreme painfulness, too, of premature death, is Nature's proclamation that its cause is proportionately sinful. Fraud, robbery, and the like, are as trifling sins when compared with the destruction of health, as life is more valuable than property. It is high time we considered sickness as it actually is, *high-handed rebellion* against God, and a crime against man!

EXCEPTIONS indeed occur, whenever unavoidable accidents, or causes beyond our control transpire; yet they do not invalidate this doctrine.

PRESERVE AND IMPROVE HEALTH then, old and young, one and all, by every possible means. Behold the infinite perfection of these bodies! Behold the variety and power of their functions!⁷⁰ Be astonished at their almost angelic capabilities for enjoyment!¹⁵ O, who can contemplate this highest piece of divine mechanism without overflowing wonder and gratitude! And was *such* a structure made to be *abused*! Shall we bandy about so delicate, so complicated, so infinitely valuable a gift as if it were an old box! Shall we undo all He has done to secure the invaluable blessings of health and happiness! Shall we impair, vitiate or break down functions thus inimitably perfect in themselves, and thus laden with all the enjoyments of life! Shall we not rather cherish and enhance them as our richest earthly treasure! Shall we nurture our land and trees, and neglect our own bodies! Shall we not love and keep a present thus divine, on account of its own intrinsic worth, and of its Bountiful Giver! Shall we cherish rich earthly legacies, yet abuse a divine legacy which is perpetually bringing forth, from its exhaustless store-house, every enjoyment, actual and possible, of life! Shall we love earthly donors the more the greater their gifts, and not worship, with our whole souls, the Author of that life so infinitely above all other bestowments! Life, O, how precious!¹⁴ Its wanton waste, how infinitely foolish and wicked!¹⁶ Let others do as they list, but let our great concern be to OCCUPY this heaven-conferred talent while it lasts, and to guard against its injury with Argus vigilance. God forbid our doing or allowing the least thing to impair its efficacy, or neglecting

any means of enhancing its capabilities. This sacred duty, this paramount obligation to God and our own souls, let us study and fulfil. O, thou Bestower of this "pearl of greatest price," grant or deny whatever else Thou wilt, but give us intellect to know, and the inflexible determination to practice, *the laws and conditions of health and life.*

SECTION II.

VITALITY: ITS NECESSITY, ORGANS, AND PROMOTION.

74.—VITALITY THE FIRST PREREQUISITE OF LIFE.

MANUFACTURING VITALITY is life's first and greatest work. Man, and all animated beings, are so constituted that every exercise of all muscles, nerves and organs, whatever we say, do, and are, and all the operations of our entire and complicated mental and physical nature, *expend vitality.* As no machinery can be propelled without consuming that power which impels; so this wonderful mechanism which manifests life, mind included, cannot move one iota, in whole or in part, without thereby *using up* that vitality or animal energy which constitutes its motive principle. And since life consists in a vast variety and complication of functions, some of which are often most powerful and intense, of course its consumption of vitality must be proportionally great; even though individual functions expend but little. And this consumption is in the exact ratio of that life which it propels; because the latter *consists in* the former. We sometimes think, feel, do, and therefore live more in one hour than at other times in ten or twenty hours; and of course consume vital energy proportionally faster.

THE GREATER ITS ABUNDANCE the more rapid and efficient all these functions, just as machinery works the more powerfully when the "head" of steam or water is great, than when it is low; and for a kindred reason. Except in cases of corpulency,⁵⁵ we think, feel, perform, and therefore live more or less easily, vigorously, and effectually in proportion as this supply is abundant; but become enfeebled in proportion as it declines. Hence its re-supply is paramount, else exhaustion must inevitably follow; which of course proportionally reduces life, and invites disease,⁶¹ and if carried too far, suspends life altogether.

THE GREAT ART of living and working then consists in *keeping*

up a full supply of this vital force. Many break down seemingly from over-work, but really from want of vitality, who could have done all they did do, and twice as much more, with perfect ease, and without sustaining the least injury, if they had simply taken fair care of their *re-supply* functions. Both the preservation and the restoration of health depend more on this vital re-supply than on all other causes combined. What would you think of that teamster who should work his team up to the top of its strength without ever stopping to rest or feed, until they thus became unable to work any longer? Then what do you think of yourself for pursuing a like course? As the very *way* to get the most work out of his team consists in keeping it in good working order; so the great art of doing the most work possible with head or hands consists in keeping on a full head of life-power with which *to* work. As the best way to "whip up" a jaded horse is to give him food and rest; so the best way to urge on any work in hand is to put and keep yourself and workmen in good working *order*. On no account work when "all tired out." Few things are equally injurious. Keep up a full head of vital *steam*. As that engineer would be foolish who should run his engine away out upon the prairie, far from wood and water, till he had used up all of both, so that he could go neither way; so many men and women work on with all their might till they can work no longer, without taking any time to recuperate. The secret of Benton's extraordinary working capacity consisted in his having a vital laboratory of marvellous size and efficiency, and then in his *taking good care* of it besides. As, though you had a machine the most perfect possible, it would be useless without motive power; so, though you have an organism and a brain of the very best quality, they are useless except as far as they are supplied with that vitality which sets and keeps them at work. They are to life and all its functions what capital is in business, indispensable. No comparisons, no amplifications, can possibly do justice to this important subject. Why has it been so long overlooked?

PROMOTING THIS RE-SUPPLY, therefore, becomes the first, as it is the most neglected, art of living, and of course our first topic.

THE VITAL ORGANS, those located within the ribs and pelvis,⁵⁵ are created solely to manufacture this vitality. Of course showing how to promote their action is first in order, and first in practical importance.

75.—EACH VITAL FUNCTION HAS ITS MENTAL FACULTY, CEREBRAL ORGAN, AND FACIAL POLARITY.

EVERY CLASS of the mental functions is executed by its own mental Faculty,³³ while each Faculty achieves some end indispensable to human existence;³⁴ therefore every physical class of functions, being indispensable to human existence, must needs have both its mental Faculty and cerebral organ. This reasoning is conclusive. Hitherto, phrenologists have applied it only to all the mental operations, whereas it must necessarily apply equally to all the physical as well.

SOME of these physical functions are known to have each its own mental Faculty and cerebral organ: therefore *all* have. Thus alimentation, one of those necessary physiological functions, has its specific mental Faculty and cerebral organ in Appetite; therefore each of the *other* physical functions, respiration, circulation, excretion, sleep, animal warmth, and all the others, must needs have each its own mental Faculty and organ. The stomach, one of the visceral organs, has its Faculty in the mind and organ in the brain; therefore the heart, lungs, diaphragm, liver, bowels, pancreas, kidneys, skin, muscles, nerves, bones, and every other physical organ must also have its Faculty and organ. They have not yet been, but soon will be, discovered, this being the first hint that they exist.² •

THE BASE of the brain is the obvious seat of all the cerebral organs of these physical functions. This is proved by the ramification on it of nerves from all parts of the body.³⁷ We shall give other proofs of this truth, and the location of some of these organs, when we reach them. The necessity for such Faculties and organs is obvious in order to carry out Nature's grand policy of a Faculty for every class of functions,³³ and a cerebral organ for every mental Faculty.³⁹

A FACIAL POLARITY accompanies each mental Faculty. Thus the lungs are obviously connected with the face just where that hectic flush appears during consumption, and at the reddest part of the rosy cheeks of health. That this hectic flush is *caused* by lung inflammation, is demonstrated by its always *accompanying* it. That this particular part of the face is in sympathy with the lungs is proved by its being always pale whenever they are inert; red and rosy whenever they are vigorous and healthy; and hectic whenever they are inflamed. Need any proof be stronger? We will then call this part of the cheeks the facial pole of the lungs.

THIS PROOF that this *one* of these physical organs has its facial polarity, proves that each and all the *others* likewise have their facial connection.

THE stomach has its facial pole about half way between the corners of the mouth and lower part of the ears, opposite the molar teeth, or in the middle of the cheeks. Those who are full there have naturally excellent digestive powers; while constitutional dyspeptics fall in there, that is, are lantern-faced, and sunken-cheeked. It is remarkably apparent in Hall, Bismarck, Young, Scott, Butler, Tweed, Minerva and others, but deficient in Mellen, Stephens, and some others. Yet we shall illustrate the pole of each under their respective heads. Here, only of the existence of this polar principle, there of its detailed applications.

THIS POLARITY shows *why* and *how* all the minutest shadings and phases of all the health conditions report themselves in the face; that is why the countenances of all proclaim so perfectly all their bodily conditions, including their precise existing states of health and disease; and thereby incidentally why a good complexion is a paramount condition of beauty,²⁹ and beauty a sign of loveliness, because it indicates normality, and this purity.³⁰

I. VITATIVENESS:

ITS NECESSITY, ADAPTATION, OFFICE, ANALYSIS, AND CULTIVATION.

THE DOCTOR; love of life; natural longevity; toughness of constitution; tenacity of life; that clinging to existence which involuntarily resists disease and premature death by force of will; instinctive preservation of life and health; mental resistance to all conditions antagonistic to life, not actually fatal; that which will not give up to sickness or death till the very last.

76.—LOVE OF LIFE A PRIMARY PREREQUISITE OF EXISTENCE.

SOME HEAD must needs preside over life, and all its functions, just as the president does over the republic, and the monarch over his realm. Leadership is necessary in everything. What the body would be without its head, everything else would be without this its head centre. Some executive officer must preside over whatever acts, to issue mandates, and control all those individual parts of which every whole is composed.

LIFE must therefore have its presiding officer to issue required mandates to all its parts; *start up* this whole machinery of existence; repair damages; and keep all its individual functions running till they can run no longer. We showed that the *spirit principle* of all things creates its organism to its own requirements;⁵⁰ yet pray, what sets this life chit *itself* to work?

LOVE OF LIFE. As *love* of eating presides over eating, love of the opposite sex over propagation,³²⁹ and so of every other function; so life must be and is presided over and carried forward as one great whole by a *love of living*.

SELF-LOVE is the strongest instinct of whatever lives. And well it may be; else how could or would it do any thing to prolong its own existence, or do any one thing whatever, even breathe, or eat, to continue life! It is the paramount function and chief agent of all existence; and yet is but this identical love of life!

ALL MUST POSSESS it in sufficient force to triumph over cold and heat, snow and rain, and all those myriads of surroundings inimical to life, sickness included. It must therefore be the paramount and ruling element of all that lives; for its preservation is the *sine quâ non* of all their pleasures and ends. It should therefore be as all powerful in every form of life as that life is valuable.¹⁵ Accordingly—

LIFE IS SWEET. O how sweet! Premature death is dreadful. O how awful! Since happiness is the only love of all forms of existence, and existence that cord by which all hangs, and its breach their destruction, Nature guards it by a love of it far surpassing all other loves. What will a man dare and do, and what possible things not do and endure, to save his life!

HOW HORRIBLE is premature death! That identical *rationale* which preserves life by rendering it so infinitely precious, avoids death by making it so instinctively abhorrent. How terrific, frantic, and desperate the sight of blood and apprehension of slaughter renders the docile ox! How fierce the sluggish swine become in view of impending death! What astonishing swiftness, what mighty leaps, what desperate exertions, the hunted stag puts forth when fleeing for life! nor does he surrender till every resource of his nature is completely exhausted! How terribly wild and fierce that placid kitten is rendered by attempts to take its life! With what fiendish ferocity it bites and tears with teeth and claws! What superhuman sagacity, what well-directed, potential, and protracted efforts of body and mind men, and even timid women, put forth when threatened with death,

yet retaining power to fight for dear life ! What but actual impossibilities do they not accomplish ! What terrific looks ! What agony of despair ! Who can stand before their wrath ! What fiends are as fiendishly malignant as all are rendered in defending their own lives ! What consternation and dismay, what phrenzied horror reign on board that sinking ship ! Reader, may you never be brought suddenly face to face with this dread "king of terrors ;" may you be mercifully spared that climax of all human agony ! Yet what is all this fear of death but this identical love of life by which it is preserved ! How great this end ! How appropriate and efficacious this means ! But for some such ever-vigilant sentinel it would be destroyed daily and hourly, if that were possible. How ever on the alert is every animal, fowl, fish, even insect, lest it should lose its life ! That mosquito loves your blood much, but its own life more.

EVEN TREES AND VEGETABLES evince it. That tree taken up early in the fall from the French nursery, stowed away in the hold of a ship, pressed down with many tons, and carried around the globe, yet retains sufficient vitality to live and grow on, if only properly replanted ! Seeds from the hecatombs of Egypt have clung to life these three or more *thousands of years*, so that, when planted, they grow and bear ! Onions fight off frost and snow all winter long, in the open ground, and grow on in the spring ! The wonders achieved by this love of life are as universal as they are thus marvellous. No other sentiment bears any comparison with this in its herculean feats.

THIS DISTINCT CLASS of the mental operations must therefore needs have its Faculty and organ. Phrenology has discovered them. They are located in the base of the brain, behind the ear, and as near as possible to that foramen magnum or aperture in the base of the skull (seen in engraving 90) ; through which the body and brain intercommune with each other. How appropriate is this location !

77.—DESCRIPTIONS, COMBINATIONS, DISCOVERY OF VITATIVENESS.

THE RULE FOR FINDING it is this : Starting at the middle of the posterior part of the ears, pass straight backwards half an inch, and you are on it.

THE MASTOID PROCESSES, on which those powerful muscles at the sides of the neck fasten, are right over it, on each side, and the more prominent the larger this organ ; for it pushes them out.

YOUR LIFE LINE, reader, is easily admeasured, and you told about how long you will naturally live, accidents and extra conditions excepted, thus: Take the juncture of that bony projection formed by your eyebrow and that ridge which comes down the outer portion of your forehead, at Order, for one starting point, and that sharp, bony projection in the lower back portion of your skull, just above the nape of the neck, called the occipital spinalis, for the other, and draw a line between them, and you will ordinarily live the longer the higher this line rises above the opening of the ears; at the rate of about forty years per inch, or ten years per quarter inch. That is; this organ is located right back of and above the opening of the ears, which it pushes the farther *down* the larger it is. As the life force declines this organ shrivels, like love in old age, and this *meatus auditorius* rises. You can thus admeasure the natural longevity of any one in whose life you are especially interested. It fills out and widens the head just behind the lower part of the ears.

VITATIVENESS WAS DISCOVERED by Dr. Andrew Combe, in 1826, thus: In dissecting the brain of an elderly lady who had long been afraid of death, he discovered "an enormous development of one convolution at the base of the middle lobe of her brain, on its inner side, towards the mesial line, inside or back of Destruction, and between it and Force.* The corresponding part of her skull showed a very deep and distinctly moulded cavity or bed, running longitudinally, with high and prominent sides, and much more striking than in any skull I ever saw." Love of life was her preeminently active sentiment, and in her brain this lobe was very large.

"It is highly probable that there is a peculiar instinct to live, and I look for its organ at the base of the brain, between its posterior and middle lobes, inwardly of Force."*—*Spurzheim*.

"In 1825 I killed several tame rabbits, in one of which I had previously observed the utmost fear and flight when any seeming danger threatened its life. Yet it would tamely allow itself to be caught so as to be put into its box at night; and this lobe in its brain was nearly double that of the same lobe in its brother rabbits. It is also enormous in those animals which flee wildly from danger of death, such as the stag, roebuck, ape, fox, badger, cat, polecat, marten, marmot, hare, etc., and also in birds. It is situated in the lateral sphenoid fossa."*—*Dr. Viremont*.

* In quoting authors we must of course substitute our names of Faculties for theirs; and we often omit unnecessary phrases and sentences, thus always giving their *ideas* with scrupulous fidelity, yet sometimes condensing their style. Many writings can be shortened up one-half, and yet improved thereby.

DR. GEORGE MCLILLAN, whom I saw almost daily between 1838 and 1841, and whose bust I took, declared to myself and to George Combe that those of his mortuary patients in whom it was large, lived on many days longer than they were expected to live, considering their symptoms; while those in whom it was less developed, would die suddenly, without any adequate perceptible cause, and long before their death would ordinarily be expected.

THE EXISTENCE and location of this Faculty are undoubted, and its present size can be easily and correctly admeasured during life. It is also located precisely where we might infer it would be, and where it can execute its function to the best advantage. Its proximity to Force and Destruction, Faculties with which, as we have just seen, it defends life so fiercely, is especially noteworthy. Those in whom it is—

LARGE—Cling most tenaciously to life, and fight off disease and premature death with desperate determination and energy; endure pain, wounds, amputations, etc., with heroic fortitude, without seeming to mind them, and bear up under what is obnoxious to life with wonderful resolution; keep about just as long as possible, and never give up to die till the very last, and then only by inches; regard life as the king of luxuries, and death as “the king of terrors;” wear on and work on long after others expect them to die; and after those with less Vitativeness *would* die; have a most remarkable power of constitution to withstand malaria, contagious diseases, wounds, etc.; need not fear cholera, yellow fever, or anything else, because well nigh proof against them; feel that life is indescribably sweet and precious; and have the constitution of an alligator.

LARGE, with Hope large, hope to live, on even against hope, feeling as though there were no danger of their dying; and hope for “life everlasting;” but with Hope moderate and Caution large, shudder at thoughts of death, and are perpetually harassed with apprehensions lest they might die; with Hope, Devotion, and Spirituality full or large, anticipate pleasures in the world to come; with large Conscience and Caution, and moderate Hope, experience an indescribable dread of death, and shrinking from entering upon an untried future state; with large Force, fight most desperately for life, and with large Destruction added, would kill others to save themselves; and with any of their other organs large, love to live both for life’s own sake, and to enjoy their stronger Faculties.

FULL.—Love life and cling to it strongly, yet not with desperate

energy ; repel sickness and keep about with no little resolution, and "take to bed" only when obliged to, yet sooner than if this Faculty were stronger ; and will live on in spite of no little constitutional injury, to a good age, unless for some serious and sudden cause.

ITS COMBINATIONS are like those under large, except less in degree.

AVERAGE.—Enjoy life, and cling to it with a fair degree of earnestness, yet by no means with passionate fondness ; and with a given constitution and health, will die easier and sooner than with it large.

MODERATE.—Like to live, yet care no great about existence for its own sake ; with large animal or domestic organs, may wish to live on account of family, or business, or worldly pleasures, yet care less about it for its *own sake*, and yield it up with little reluctance or dread.

SMALL.—Have little desire to live merely for the sake of living, but only to gratify other Faculties.

TO CULTIVATE, reflect on the preciousness and pleasures of life, and resolve to do your utmost to preserve it in spite of all noxious conditions ; look out well for health ;¹ think how many valuable ends you can gain by living which you must lose by dying ; when unwell, fortify and brace up yourself against disease and death, and determine to live on and struggle through in spite of both ; "grin and bear" life's ills, but on no account think of drowning them in death ; and make the most possible out of life and its pleasures.

ITS CULTIVATION becomes as important as the life it preserves is valuable.¹⁵ Our first duty is to prolong our lives and promote their efficiency, of which the cultivation of this Faculty is by far the greatest means. None can imagine its recuperative power. Such culture is our imperious duty. It was created and rendered thus potential in order to be *exercised*, instead of lying dormant within us. A means thus efficacious of warding off disease and prolonging life, it is our solemn duty, our greatest interest, to cultivate. Many think clinging to life a sin—that we should be passively "resigned to die, whenever God calls us to go."

WHAT PIOUS BLASPHEMY ! For what did God create this powerful Faculty in all His productions but to be *cultivated*, not crucified ! Willingness to die is practical suicide, because both *hasten death* ; while cherishing a desire to live promotes life, and all the good we can thereby do.

WHEN "GOD calls," did you say ? God gave us life that we might live as long as we can, so as to fulfil our duty to Him and His

creatures ; nor does he *ever* call *any* to die till they are worn out, and sink gradually into the grave under the weight of years, and when death becomes a luxury, or else till they have so far outraged His health laws as to oblige Him to take from them His greatest boon, because they have violated His divine requirements. A Christian *virtue* to "rush upon the thick bosses" of death's grim buckler, is it ! A pious merit to crucify our most powerful instinct given us for that noblest of all ends, the prolongation of life, its powers and labors ! When *will* men be done with this pious twaddle ! Does committing suicide by longing to die fit us for heaven ! But we have just touched a kindred point under "special providences."⁷²

TO RESTRAIN, is never necessary, unless it becomes morbid, and haunts, as it sometimes does, with morbid and groundless apprehensions of death. This is its abnormal action, and requires *righting up*, more than restraining. A morbid dread of death is to this Faculty what panic is to Caution, and most fatal to life, as fright is to Safety. To obviate this phase of it, offset it by intellect.⁶⁸

78.—THE WILL CURE, AND THE LET-ALONE CURE.

GOD'S SPECIFIC PANACEA, invented for the express purpose of resisting and curing all forms of diseases, and prolonging life to its maximum length possible, is this identical remedy. As a city must be defended from *within*, so must the citadel of life. It is by far the most efficacious of all remedies and cures, and *pleasant to take*, as well as "dirt cheap." The Great Doctor of this whole universe "fore-knew" that men would so outrage His health laws as to become sick, and hence need a remedial agent both always "on call," and the best restorative He could devise, and "invented" this. Its curative *principle* is based in the magic power wielded by the mind over the body, and each of its parts. This great truth has come up twice before,^{2 18} but cannot be cited too often or forcibly. Those who *think* they are sick, *are* sick, although perfectly well, while those who *think* they are well, are well, even though sick. *Imagination* makes sick and well, *ad infinitum*.

VITATIVENESS puts forth this *will to live*, and contributes essentially to the preservation of life by creating a resistance to disease. Thus two persons, A and B, exactly alike in constitution, kinds of sickness, and all other respects, except that A has Vitativeness large, and B small, are brought equally near the grave. A loves life so dearly, and clings to it with such tenacity, as to struggle with might and main against his disease, and lives through it ; while B,

scarcely caring whether he lives or dies, does not stem the downward current, does not brace himself up against it, but yields to its sway, is borne downward, and swallowed up in death. An illustrative anecdote:—

A RICH MAIDEN, who had already lived twenty years longer than her impatient heirs desired, finally fell sick, and was evidently just breathing her last, but on overhearing one of her bystanding heirs congratulate another that she was now dying, so that they could enjoy her fortune, and feeling indignant, replied, "I WON'T die; I'll live to *spite* you;" meanwhile putting forth a powerful mental struggle for life, recovered, and lived many years, evidently in consequence of this powerful determination to live.

MRS. RUNKLE, struck with consumption, kept trying to persuade her husband to promise her, in the event of her death, not to marry again; to which he kept replying, evasively, that they were trying to cure her, and hoped to succeed, but evaded a direct reply. When almost dead, determined with her last breath to extort from him a *categorical* answer, he finally frankly replied,—

"Well, Mrs. Runkle, if I should make a promise to a dying wife, which I consider you are, not to marry again, I should feel bound to fulfil it. Since you oblige me to say yes or no, I had rather not promise."

"Well, Mr. Runkle, if you *don't* promise me not to marry again, then *I won't die*."

And she didn't—didn't because she wouldn't; and is alive and well to-day, just because she *wouldn't* die. (Hadn't he better have *promised* her?)

MRS. GUNN, of Painsville, Ohio, struck with consumption, a most devoted mother, tried to induce her husband, in case she died, to keep the family together, instead of putting the children out; but he would not absolutely promise. At last, though actually struck with death, her extremities already dying and sight failing, replied to his "don't know" answer, "Well, if *you* won't keep this family together then *I will*;" and suiting the action to the word, by a powerful effort of will, drove the retiring blood back through her system, got well because she willed to, lived to keep her family together till all were married, and procuring a manikin, lectured many years to the ladies on health.

The world is *full* of kindred facts. All must know of wonderful analogous cures. The Author has seen them by thousands. This

vitative Faculty causes and explains them, and even when medicines benefit, this Will-cure is the main cure. Its power is literally magical. Without it other cures are useless, and with it, unnecessary. Nature can beat doctors. What she undertakes to do she does *well*. Vitativeness is her doctor and materia medica. Then put yourself under *her* sole care, just as you would under any other medical practitioner, and not insult her by mixing up her restoratives with doctor's drugs.

THE LET-ALONE Cure is but the outgrowth of this Will-cure. How many millions have grown worse by doctoring till they had no more means or hope, given up, did nothing, waited to die, kept on living to their wonderment, and finally *got well*. What a pity! not their getting well, but keeping themselves sick so long by so expensive a practice.

FAITH is only another form of this Will-cure and Let-alone cure combined. A calm, serene *trust* in the recuperative powers of Nature is both the best of all cures, and only another expression for faith in God and trust in Providence. This "faith" was the essential and curative ingredient in Christ's miracles. But for it would the man at the pool have been able or disposed to "take up his bed and walk?"

NOYES, the leader of the Oneida Community, heard these views from the Author's lips, while in Brooklyn, before he formed his Community, and has made this "Let-alone" "faith" cure its only remedial agent. The Mormons also make it theirs. They do indeed work miraculous cures, by making their patients *believe* they can cure, which belief revives and inspires Vitativeness to that action which cures.

LAYING-ON-OF-HANDS doctors all cure by this same Will-power principle. See how applicants crowd their-rooms, entries, and even adjacent sidewalks, awaiting their "turn!" Behold the cords of crutches and canes of those who could hardly walk there with them, but "arise and walk" home, and go to work without them! Their cures are amazing, in both number and efficacy. Effected on what *principle*? By inspiring *desire* and *hope* of life. If these patients, if all patients, will get and nurture this same desire and hope without these "laying on" mummeries, they will get well just as soon as with them. But God bless them; for without them patients would not get up this faith and hope, and hence must remain sick.

TRUST in the doctor amounts to the same thing. His medicines act like a charm, because the patient *thinks* he knows precisely what

to give ; whereas, that same medicine, taken without hope or confidence, would be useless, whereas the same hope and faith would cure just as well without any medicine, as with.

READERS are respectfully invited to *scan* this Will-power-faith-let-alone pathy, and if well, apply it to keeping well, but if sick, to restoration, by a quiet *mental* resisting and stemming of the current of disease, and by a firm, resolute, mental clasp, hold on to life by resolving that you *will* get well, and fight off disease any how ; by sending life-force to your stomach, bowels, lungs, head, hand, foot, even little-finger nail, or any other part affected. This will wonderfully promote all other pathies, yet interfere with none.

THIS GREAT MOTOR WHEEL of life must, like that of machinery, have its cogs, belts, and other means for *transferring* its *vis animæ* to all functions. This grand life executive must be somehow *inter-related* to all the other functions, so that when it bids them start up and work on they will obey its imperious mandates. One of its chief cabinet officers is—

SECTION III.

RESPIRATION, ITS LAWS, ORGANS, AND PROMOTION

79.—BREATHING A PARAMOUNT LIFE NECESSITY.

ALL THAT LIVES breathes, and must keep on breathing till death, and respiration is as necessary to vegetable life as to animal, and to fish and fowl as man. Trees, vegetables, mosses, etc., breathe through their leaves, or those blades of grasses, grains, etc., which subserve the same breathing purpose. Fish fulfil this identical function by respiring water instead of air, through gills in place of lungs. The first post-natal function of every new-born babe, is to take a good long electric breath, which sets the blood bounding off through its system with a rush, and starts every other function into instantaneous action. It so is that the most important function of terrestrial life, from first to last, is deep, copious respiration ; and some would live on longer if they could only keep on breathing still longer. Would you get and keep warm when cold, breathe copiously, for this increases that carbonic consumption all through your system which creates all animal warmth.¹³² Would you cool off and keep cool in hot weather, deep, copious breathing will burst open all those myriads of pores, each of

which, by converting the water in the system into perspiration, casts out heat, and refreshes mind and body. Would you labor long and hard, with intellect or muscles, without exhaustion or injury, breathe abundantly ; for breath is the great reinvigorator of life and all its functions. Would you keep well, deep breathing is your great preventive of fevers, consumption, and “all the ills that flesh is heir to.” Would you break up fevers, or colds, or unload the system of morbid matter, or save both your constitution and doctor’s fee, cover up warm, drink soft water—cold, if you have a robust constitution, sufficient to produce a reaction ; if not, use hot water—then breathe, breathe, breathe, just as fast and as much as possible of fresh air, and in a few hours you can “forestall and prevent” the worst attack of disease you ever can have ; for this will both unload disease at every pore of skin and lungs, and infuse into the system that *vis animæ* which will both grapple with and expel disease in all its forms, and restore health, strength, and life. Nature has no panacea like it. Try the experiment, and it will revolutionize your condition. And the longer you try, the more it will regenerate your body and mind. Even if you have the blues, deep breathing will soon dispel them, especially if you add vigorous exercise. Would you even put forth your greatest mental exertions in speaking or writing, keep your lungs clear up to their fullest, liveliest action. Would you even breathe forth your highest, holiest orisons of thanksgiving and worship, deepening your inspiration of fresh air will likewise deepen and quicken your divine inspiration. Nor can even bodily pleasures be fully enjoyed except in and by copious breathing. In short, deep copious breathing is the alpha and omega of all physical, and thereby of all mental and moral function and enjoyment.

THE ELEMENTS furnished to the blood by the breath are more, and more perpetually indispensable to life than those derived from digestion, because we can live longer without food than air. Starvation is terrible, and soon fatal ; but suffocation is worse, and despatches its victims a hundred fold more quickly and certainly. Indeed mankind can live but a few minutes without breath ; and those deprived of it die the soonest who are the most active. Thus the slow-moulded Malay can stay under water seven and eight to ten minutes, and then rise without injury, whereas the more active Caucasian suffocates if he remains under five or six minutes—the difference being one quarter in favor of the sluggish ; because the more active the subject the more rapidly he consumes the energies derived from breath, and therefore the more frequent and copious must be

this re-supply. The faster we live, the more and oftener we must breathe. As the snake, frog, alligator, and other cold-blooded, sluggish animals can live a long time without breath, especially while torpid; so the more stupid the human animal the less breath he requires. Hence, ability to hold the breath a great length of time is a poor recommendation.

OXYGEN, in large and perpetually renewed quantities, is the first prerequisite of the vital process. Without it, all the other materials of life would be of no avail. They are the timber and the tools of the vital organs; while oxygen is the master workman, the grand motive-power of the animal economy, indeed, of universal nature. The vital process closely resembles combustion, of which oxygen is the great agent and promoter. Even cotton, combustible as it is, cannot be ignited when well baled with iron hoops; because they keep it so closely packed together that the air, and therefore oxygen, cannot well penetrate it; whereas, when the bands burn off, so that the cotton is opened up to the air, it burns fiercely. As fire goes down with the scarcity of oxygen, and goes out when it disappears; so the fire of life wanes in proportion as its supply is diminished, and death supervenes almost immediately when it disappears. This imperious demand of the system for it renders the requisition for breath absolute, and its suspension soon fatal. A demand thus imperious signifies that its office is equally absolute.

BREATH is the source from which it is obtained. Air always contains it, being composed of twenty-one parts of oxygen to seventy-eight of nitrogen; the other hundredth being carbonic acid gas, and going to support vegetation. Air, wherever found, and under all circumstances, is composed of these substances always in the same proportion. Any variation destroys it, or makes it into something else. Air, and of course oxygen, abound wherever man can go, unless artificially excluded. Being highly fluid, it can penetrate the least possible crevice, and even some solid substances. It not only surrounds the earth, extending some forty-two miles, and probably many more, above it in all directions, but its great heft presses with immense weight upon every part of the surface of the body. Its quantity is, therefore, as illimitable as its demand is imperious.

INNATE LOVE OF BREATHING, then, becomes as important practically as breathing itself is necessary; because but for this love who would ever breathe? Man is created with a breathing *instinct*, which is ever on duty, except while taking a short nap at every breath, when the lungs do.

A MENTAL FACULTY with its cerebral organ, obviously executes this necessary office. The location of this organ has not yet been discovered, but it probably resides close by Love of life and near the origin of the eighth pair of nerves which ramify on the lungs. See engraving No. 7, at figure 8.

LARGE.—Have either a full, broad, round chest, or a deep one, or both; breathe freely, but rather slowly; fill the lungs clear up full at every inspiration, and empty them well out at every expiration; are warm, even to the extremities; red-faced; elastic; buoyant; rarely ever subject to colds, and cast them off readily; feel buoyant and animated, and are thus capable of great vigor in all the functions, physical and mental.

FULL.—Have good sized lungs and use them easily and freely; suffer for want of breath only when long overworked; need not fear consumption unless you greatly abuse your health; will often unload disease through them by expectoration, and even experience that spent, tired, used-up feeling consequent on deficient lung action.

AVERAGE.—Are neither pale nor flushed, neither ardent nor cold, but a little above medium in these respects, and somewhat liable to colds.

MODERATE.—Breathe little, and mainly with the top of the lungs; move the chest but little in breathing, and the abdomen less, perhaps none; are often pale, yet sometimes flushed because feverish; frequently do and should draw in long breaths; are quite liable to colds and coughs, which should be broken up at once, or they may induce consumption; often have blue veins and goose-flesh, and are frequently tired, listless, and sleepy, and should take particular pains to increase lung action.

SMALL.—Are strongly predisposed to lung diseases; have blue veins and sallow complexion, and are very subject to coughs and colds; are often dull, and always tired; frequently catch a long breath, which should be encouraged by making all the breaths long and frequent; are predisposed to consumptive diseases, but can stave them off, provided proper means are adopted;⁸⁶ break up colds as soon as they appear, and take particularly good care of health. Have barely lung action enough to live, and every function of body or mind is poorly performed.

To CULTIVATE.—First and mainly breathe deeply and rapidly; that is, draw long and full breaths; fill your lungs clear up full at every inspiration, and empty them out completely at every expiration; not only heave the chest in breathing, but work the abdomen. To do

this, dress loosely and sit erect, so that the diaphragm can have full play; begin and keep up any extra exertion with extra lung action; often try how many deep and full breaths you can take; ventilate your rooms, especially sleeping apartments, well, and be much of the time in the open air; take walks in brisk weather, with special reference to copious respiration; and everywhere try to cultivate full and frequent lung inflation, by breathing clear out, clear in, and low down; that is, make all your breathing as when taking a long breath.

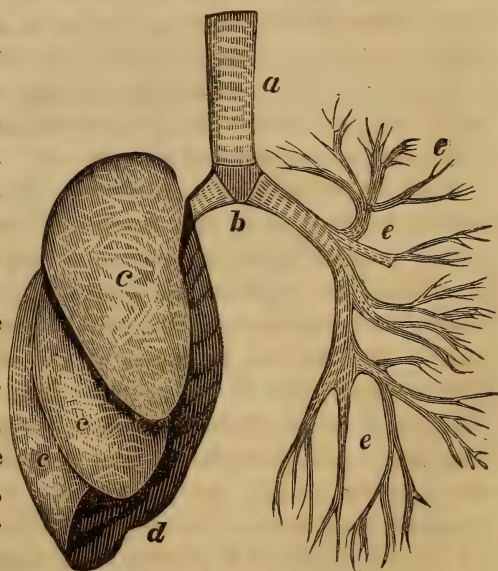
80.—THE LUNGS, THEIR STRUCTURE, LOCATION, ETC.

LUNGS execute this all important breathing function. They are located in the very top of the chest, extending from beneath the first ribs downward about one-third the length of the body proper, occupying most of the chest. They are composed of two hemispheres, the right containing three lobes, as seen in engraving No. 91, while the left has only two; it being scooped out in the middle, so as to allow the heart to be partly enveloped in it.

THE TRACHEA, or windpipe, is an air tube, connecting between the mouth and nose above, and lungs below, branching at its bottom into the bronchia; the inflammation of which causes bronchitis, while consumption consists in the inflammation and suppuration of the lungs. This trachea conducts the air into and out of the lungs.

IT BRANCHES into the right and left hemispheres of the lungs, and then re-branches into each lobe, and continues to bifur-

No. 91.—SHAPE AND STRUCTURE OF THE LUNGS.



- a*, The trachea, or windpipe.
- b*, Its branch to the right and left lung.
- c c c*, The three lobes which compose each right lung.
- e e e*, The air cells of the lungs dissected.
- d*, The pulmonary arteries, or entrance and egress of the blood from and to the heart.

cate and ramify into air-cells smaller and still smaller, until they become too small to be seen by the naked eye, amounting to *six hundred million* in a single pair of lungs ! This air cell branching is evinced in the right-hand hemisphere of engraving No. 91, and the three lobes of the right lung, as well as their genenal external appearance, are shown in the left hand.

BLOOD-CELLS also ramify throughout these same lungs ; each set of cells occupying about half of them. These blood-cells have their entrance from behind at *d*, and 14 and 15 in engraving No. 92, which ramify like the air-cells into the minutest conceivable cellules, and lie along, side by side, with the air-cells.

THE OFFICE of the lungs is to bring the air in the air-cells just as closely alongside of the blood in the blood-cells as possible, yet keep them separate. The main body of the lungs themselves consists of a gauze membrane, containing, if spread out, from *fifteen to twenty thousand* square inches, according as the lungs are larger or smaller in different persons. This membrane is folded up so as to form two sets of tubes or cells by means of cartilage, on one side of which the blood, and on the other the air, are constantly rushing in and out, by inspiration, expiration, and palpitation.

NATURE ECONOMIZES everything, space included ; and by this folding contrivance of this membrane, presents a large amount of surface in a small compass—a contrivance akin to that by which she has folded the intestinal canal, and still further folded its mucous surface, so that a great amount may be contained within a small compass.¹¹⁴ But for this arrangement, the size of the lungs must have been immense ; just as, but for the similar structure of the intestines, mankind must have been six or eight times taller for the same weight than now. A large surface is thus provided for the juxtaposition of the air in the air-cells, side by side with the blood in the blood-cells. The right lung is somewhat larger than the left, and the two envelope the heart ; so that this juxtaposition may facilitate their combined functions.

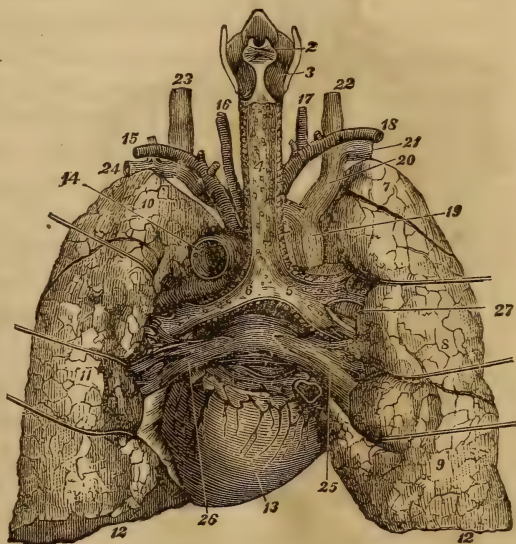
THEY RESEMBLE the finest gauze membrane, the interlacings of which are *so* fine that the *oxygen*, or electricity of the air, but not the air itself, can pass *through* it into the lungs, and the carbonic acid gas pass out through it, but not the blood ; nor can the two commingle. It resembles a strainer so fine as to keep the air in its air-cells, and yet allow the gases, oxygen and carbonic acid, to pass in and out at pleasure.

MUSCULAR FIBRES ramify throughout all these cells to contract and expand them; while cartilage is employed to form tubes, and embody them into lobes.

ENGRAVING No. 92, after Bourguery, gives a *posterior* view of the heart and its blood-vessels entering and returning from the lungs. It is well worth studying sufficiently to understand this wonderful process, the arterialization of the blood.

No. 92.—POSTERIOR VIEW OF THE HEART, LUNGS,
TRACHEA, AND LARYNX.

1. Epiglottis cartilage.
- 2, 3. Arytenoid muscles.
4. Trachea, with its mucous follicles.
- 5, 6. Right and left bronchi
- 7, 8, 9. Right lobes of the lungs.
- 10, 11. Left do.
- 12, 12. Their base.
13. Heart.
14. Aorta.
15. Left subclavian artery.
18. Right do.
16. Left primitive carotid do.
17. Right do. do.
19. Vena cava descendens.
20. Right vena innominata.
21. Right subclavian vein.
24. Left do.
- 22, 23. Right and left jugular veins.
- 25, 26. Pulmonary do.
27. Pulmonary artery bifurcating as it enters the left lung.



These lungs must next be filled with air, and emptied every few seconds, or from eight to fourteen times per minute, from birth to death, so as perpetually to introduce this oxygen into their air-cells.

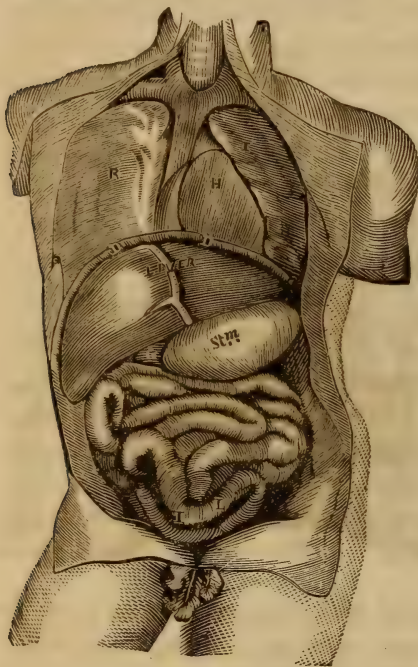
81.—MEANS BY WHICH THE LUNGS ARE INFLATED.

A VACUUM, made by the contraction of the diaphragm and hoisting of the ribs, introduces this air, freighted with oxygen, into the lungs. Air is neither stringy nor solid, so that we cannot get hold of it to draw it in; but its great weight, caused by its great height, presses it against all it touches at the rate of about fifteen pounds per every square inch, which of course crowds it into all crevices and openings. All required is to make an opening for it into the lungs, when this pressure drives it in.

THE DIAPHRAGM AND RIBS produce this required vacuum, into

which this atmospheric pressure pushes it, thus: The diaphragm is a thin, broad, dome-shaped muscle, located between the heart and lungs above, and the stomach, liver, and visceral organs below, attached across the back posteriorly, and to the abdominal muscles anteriorly, represented in engraving No. 93, by that rainbow-shaped body, *D D*, as it appears when cut down through its middle from right to left.

NO. 93.—THE LUNGS; DIAPHRAGM, STOMACH,
LIVER, GAUL BLADDER, AND INTESTINES.



- R*, Right, and *L*, left hemispheres of the lungs.
H, Heart, being between them, but most on the left side.
D, Diaphragm, or midriff, below, and separating them from *L*, the liver.
G, The gaul-bladder.
Stm., Stomach.
I, I, I, Intestines.

Suppose a broad, strong, dome-shaped muscle should be thrown over a head, and attached around at the chin, jaws, ears, and nape of the neck, thus covering the face and whole head; and suppose this head to be taken out, leaving this muscle in the same shape, fastened only at its bottom, or lower edges, and you have the shape of the diaphragm. All muscles contract, diaphragm included. This hauls its upper portion downwards till it brings it nearly on a level with its lower fastenings.

THE BASE of the lungs (12 in engraving No. 92) fits right down all around the top of this diaphragm, the contraction of which causes what would be a vacuum, only that the atmospheric pressure pushes that portion of the air nearest to the mouth and nose into the lungs. The dia-

phragm inflates the lower, which is by far the larger portion of the lungs; while their upper part is worked by muscles between the ribs, called intercostal, the contraction of which lifts the ribs, which removes all pressure from the upper and outer portion of the lungs; thus allowing the air to rush in and fill up these upper and outer portions, as the simultaneous contraction of the diaphragm fills their

lower portion. Yet these intercostal muscles do not sustain the ribs in this hoisted condition long. They hoist them at every inspiration, but soon leave them to drop back into their normal position, which presses the spent air out of the lungs again, ready for another inflation; at the same time that the diaphragm springs back to its place, and then takes a nap,—a very short one, though,—to enable it to contract again. These muscles, the diaphragm and intercostal, cause that heaving motion of the chest seen in breathing.

ONE FIFTH only of the air in the lungs is expired. An ordinary pair of lungs, when inflated, contains about one hundred cubic inches, while the amount expelled at each expiration is generally about twenty cubic inches; so that only about one fifth of the air in the lungs is changed at each breath. The object of this large remainder is probably twofold—to prevent the collapse of the lungs, and to keep a perpetual supply of oxygen in them.

82.—HOW OXYGEN IS INTRODUCED INTO THE CIRCULATION.

BY WHAT MEANS is the oxygen thus inducted into the lungs, induced to leave the air it loves, and enter into the blood? What coaxes it through this lung membrane from the air-cells into the blood-cells? But for some *efficient* means of such transfer, blood and air might lie side by side on a surface of twenty million, instead of twenty thousand, square inches, and forever, instead of a few seconds, without the transfer of this oxygen from the air, from which it cannot part without destroying that air, into the blood. How, then, is this blood oxygenated?

BY IRON in the blood. Its red globules contain so much iron that many of the ex-French nobility were wont to wear rings made from the iron extracted from the blood of their friends, for the same keepsake purpose for which we wear rings enclosing a lock of a friend's hair. Now, though the oxygen of the air loves its mate, nitrogen, right well, yet it loves iron better; so that, when the oxygen contained in the air in the air-cells of the lungs is brought alongside of the iron contained in the blood in the blood-cells of the lungs, the two rush into each other's arms. But the blood being unable to pass through this membrane which separates them, while the oxygen is able to pass, the oxygen jilts its mated nitrogen, and elopes with the iron into the blood, changes that blood from its dark venous to a bright red color, thins it, and inspirits it with life and action; so that it is now all prancing with vitality, eager to rush throughout the

system on its mission of life. As the powerful Achilles, having seized the beautiful Helen, carried her off from Troy; so the iron of the blood, having loaded itself with all the oxygen it can carry off, employs the heart and lungs as its coach-and-four to transport its new bride through the arteries into the capillary system, there to deposit this instrumentality of heat.

OXYGEN is thus transferred from the air in the lungs into the blood, as is proved by the fact that when air is inspired, it contains twenty-one per cent. of oxygen; while expired air contains only twelve per cent.; it having lost nine per cent. of its oxygen, but none of its nitrogen. Not till thus supplied with oxygen, is the blood completely freighted with the materials of life. Though it derives from food fibrine, bone, hydrogen, nitrogen, carbon, etc., yet all these are of no avail until it adds to its cargo this grand motive principle of the animal economy, oxygen, which now goes frothing, rushing, and bounding throughout the system, on its life-imparting mission. By what means is the blood circulated?

83.—THE CIRCULATION OF THE BLOOD EFFECTED MAINLY BY BREATHING, INSTEAD OF BY THE HEART.

BLOOD is the grand porter of the system—that transfer agent which supplies all parts of the body with required life materials, and also takes up and carries to their outlet all its waste or used up materials. Its presence is life, its absence death, and its rapid circulation a paramount condition of all life and all functions.

BREATHING PROPELS this blood. The received theory that the *heart* propels it, is erroneous. Let us show that the blood is *not* propelled mainly by the heart; next that it *is* propelled chiefly by the breath. The importance of the problem, just what propels the blood, is immeasurable, for it vitally concerns all human beings throughout all times and places, in order that they may promote this function by aiding its agent. All who think will eagerly search out the *philosophy* of the circulation as one of the most wonderful operations of Nature. And the advancement made in modern science demands that it be applied, *de novo*, to this, as well as to all other questions and theories handed down from former generations. To allow their mere antiquity to overawe or impede their canvass, and, if needs be, their overthrow, is both self-injurious, and unworthy this age of progress; to which we are immeasurably indebted. Surely we can well afford to look new problems squarely in the face, and canvass their intrinsic merits.

THE MODERN THEORY is that the heart, by mere muscular contraction, furnishes motive-power sufficient to *push* the blood, by *vis a tergo*, or pressure from behind, on through the arteries, and the long, fine capillary blood-vessels, and then through the veins *back* again to the heart. It is estimated that, in effecting this herculean task, it exerts a power at every pulsation equal to fifty pounds, varying in different persons, degrees of health, labor, etc.; and therefore equals some three thousand five hundred pounds every minute, *two hundred thousand* pounds every hour, awake and asleep, and *five million* pounds per day! This amount is absolutely impossible. The energy put forth by the heart is reputed to be sufficient to raise its own weight *twenty thousand feet every hour*, whereas, an active pedestrian can raise himself only about one twentieth of that distance, and a locomotive only twenty-seven hundred feet. All such estimates refute themselves, by their own sheer impossibility. Think of the heart putting forth twenty times more relative energy than an active pedestrian climbing a mountain, and a third more than a racing boatman's arm, which is ten times as heavy!

THESE ESTIMATES are deduced, not from the size of its muscles, nor from what it is actually known to accomplish, but from what is *necessary* in order to propel the blood throughout the system as fast as we know it actually does circulate. That all this amazing force is *required* in order to accomplish this circulation, is admitted; but that the heart does not put it forth is proved by its size. Beyond all question, size, other things being equal, is a measure of power.⁴⁰ Then why should a half-pound heart put forth as much muscular force perpetually as an arm weighing ten times more, while taxed to its utmost during a short boat-race? No argument is necessary to prove that this is not, and *cannot* possibly be the case. The more so since the heart, like every other muscle, must and does take about a quarter of its time for sleep. It lies down and takes a nap after every pulsation, to enable it to execute the next.

THAT SOME TREMENDOUS force propels the blood quite equal to preceding estimates, is rendered obvious by the force with which this blood spirts out a yard or more, and flies all around, when arteries or veins are punctured, as in bleeding, stabbing, cutting the throats of animals, etc., and this even after the power just previously expended in forcing it through those long and infinitesimal capillary blood-vessels, too fine to be seen by the naked eye.

HOW COULD ARTERIES AND VEINS WITHSTAND all this dynamic

pressure from birth till death, and yet *grow* besides! No, medical savans, your theory is preposterous. What life-fountain could supply all the vital force requisite for all this perpetual effort! And what machinery could endure all this terrific strain! Sensible men should cast about to see whether Nature has not provided some *other* means, less absurd and more rational, less liable to derangement and affected by other derangements, as well as not contradicted by every known law of dynamics.

THIS RATIONAL THEORY of the circulation we propound. The office of the heart is to regulate, cut off, and *admeasure* the blood, not to create its propelling power. Such regulation requires no little propulsive force, of which the heart has considerable, as is evinced by the size of its muscles, and power of its pulsations, as proved by external observations, and in other ways. Yet its main office is *regulatory*, not propulsive; its propelling power barely sufficing for such regulation, yet little more.

Then since the heart does not, pray what *does* generate that tremendous power necessary to propel the blood throughout the system?

BREATHING. The lungs, not the heart, generate this motive power, thus:—

ELECTRICITY constitutes this motive agent; besides being the great generator of the motive powers of the universe, that of the muscles included. The *modus operandi* of that generation, as applied to the blood, is this:—

ALL POSITIVE electric bodies proportionally *repel*, while all negatives and positives *attract* each other. This is both a fundamental law of electricity, and a generator of illimitable motive power throughout Nature—is self-acting “perpetual motion” personified, and undoubtedly can and will yet be employed to generate any required amount of motive-power, at little cost, just when and where men require it for use. It furnishes propulsion to the blood, thus:—

A VAST QUANTITY of oxygen, or electricity, both elementarily the same, that chief agent and means of life, is introduced into the system by breathing. Indeed, *it does nothing else*. That is, it charges the *air-cells* of the lungs with electricity to their fullest extent.

THE IRON in the blood attracts about half of this electricity through that thin film which separates the air-cells from the blood-cells. This charges *both* sets of cells *positively*, which generates a powerful self-acting *propulsive* force by the electricity in each repelling that in the other. *This electricity*, not the muscular contractions of the heart,

generates that tremendous power necessary to push the blood along through all that inconceivably fine network of long capillary blood-vessels throughout the body ; besides stimulating the heart to put forth whatever muscular efforts it does put forth. And this force, unlike dynamic pressure, does not strain or burst the heart, because it works on a different principle—that of *mutual electric antagonism*, not of pressure.

“BUT WHY should the electricity in the air-cells drive off that in the blood-cells ? and why not that in the blood-cells drive off that in the air-cells ? ”

BECAUSE DRAWING IN the breath keeps *crowding* electricity into the lungs, and *holding* it there for the instant, keeping the “better half” of this electricity in the filling air-cells, at the same time that the electrified blood *moves off*, or rather *rushes away* from this air-cell electricity, just as fast as it gets charged positively ; this repulsion being instantaneous when the breath strikes the lungs. In other words, breathing first crowds the *air-cells* full of electricity, which keeps passing through into the blood-cells, these air-cells being kept charged by the breath. This leaves no escape for the electricity in the air-cells, while that in the blood-cells has full liberty to rush away from that in the air-cells, and does rush on to the extremities of the system. Doubtless those rings found throughout the whole arterial system,¹³⁰ stimulated by this electricity to contract, aid this rush of blood along through them.

THE MUSCLES AND NERVES now seize this electricity thus brought to their hands, and consume it in carrying on the various operations and functions of the life process, which leaves this blood *negative* by the time it gets through these capillaries into the veins. Of course this negative state of the venous blood now *attracts it back* to the lungs. That is, this very electricity in the air-cells which drives off the arterial blood freighted with life, at that very instant, *as* powerfully *draws in* this venous or negative blood, only to recharge it positively, and send it off again on its life-sustaining circuit ; thus “killing two birds with this one stone,” and “making each hand wash the other.”

How much more rational and obvious is this theory than that the heart furnishes *all* this force !

HOW VAST AN AMOUNT of power is required, not only to propel the blood to the surface through these long infinitesimal capillaries ; but also to overcome all the obstacles it has to encounter ! Just think of the pressure of a person weighing two or more hundred pounds

when sitting on a board, all this weight pressing upon a few square inches perpetually, for hours; and yet the blood must be pushed along through this point of pressure, between board and bone, in spite of this heavy, steady weight, else its death and mortification must ensue; and thus of thousands of like obstructions. What an amount of internal circulatory power becomes necessary to resist a lady's tightly-drawn stays, or even a man's suspenders; or to keep the blood flowing through the soles of the feet while we stand; or even to resist the pressure of the air on the body, which is *over one ton on every square foot* of the body's whole surface! Yet this electric principle furnishes power enough for all this, without any bursting of blood-vessels, or strain anywhere. The old theory, taught by those medical schools which oppose Phrenology, is both obviously absurd, and an absolute physical impossibility. Medical colleges, why have you taught these absurdities thus long? Why have you not discovered this new principle, which is right in your line, before? Because you do not *know* enough, and don't *think*; for if you did, you would neither teach such nonsense, nor oppose Phrenology.

PROOF of this new theory, however plausible, is demanded, and furnished in any required amount, and as patent as the unclouded noonday sun, in the following *ranges* of facts.

THOSE WHO ARE WELL breathe enough at each inspiration to last them till the next breath, and therefore have a pulse perfectly *regular*; whereas those any way ailing, show it by a pulse rendered *irregular*, thus: The air, the moment it strikes their lungs, creates a strong, quick pulse, while the next pulse is lower and slower, and the third still feebler and longer; till the instant the next breath strikes the lungs it sends off the blood in another rapid and powerful pulsation. What evidence could or need be stronger in proof that this propulsive force is derived from the *lungs*, not heart, than this *fact*, which all can perceive in their own persons?

MARK THE CONCLUSIVENESS of this proof by a supposition precisely analogous. On your left stands a steam-boiler, ever heated up, and generating a powerful head of steam, and on your right a complicated machine which consumes an immense amount of motive power in running. A steam pipe conducts this steam upon this motor wheel of this machinery, having a valve by which you can shut this steam off from this machinery at pleasure. You find that whenever you shut off the steam this machinery slackens up till it finally stops; yet starts up again the instant you let on this steam;

would you, would any sane person maintain that this machine was *not* moved by this steam, but that it moved *itself*! And yet this identical experiment proves that breathing circulates the blood.

HOLDING THE BREATH furnishes this same proof, by this same means. The longer it is held, the slower and feebler the pulsations become in every single person, well and sickly, in every single instance. Try it, but not too long, and note the diminution of the pulse, till a full breath restores it. Is not the heart's force as great just *before* breathing as after!

DROWNING is effected by depriving the lungs of air, and thus arresting the circulation, and the way to resuscitate those almost dead is to inflate their lungs; which restores life by reinstating the circulation. Where have medical professors, doctors, and others kept their eyes and senses, not to have long ago discovered a principle and its proofs so obvious, and established by facts so patent and universal? Every pulse they feel proves it!

THE OFFICE OF LEAVES in trees and vegetables also proves that the lungs mainly propel the blood. All concede that sap is to vegetable life precisely what blood is to animal, while leaves are to the former what lungs are to the latter. Assuming what all concede, that leaves and lungs fulfil the same office, we assert that *leaves circulate the sap*; therefore the lungs circulate the blood. It must take immense power to draw maple, and all other sap, along up under tight-pressing bark. This power must be put forth by its own agent or organ.²⁵ But trees have no heart, actual or rudimental. Roots do not propel it, for their sole office is to supply nutrition. Then, since heart does not, what does propel this sap?

LEAVES. This is proved by this fact, that though, as in starting hot-house grapes, the ground around their roots is frozen, yet the hot-house *heat* starts action and growth in the leaves, and these *leaves* propel the sap down to the roots, and back again. Maple sap, in running freely while the ground is yet frozen two feet deep, proves this same theory. If these horticultural facts, patent to all, do not prove, they at least strongly confirm our theory, that the main circulatory agent is the lungs instead of the heart.

84.—INCREASING RESPIRATION BY DIAPHRAGM BREATHING.

PROMOTING RESPIRATION promotes every life capacity, function, and enjoyment. Yet many breathe so little that the heaving of their chests is scarcely perceptible, while their abdominal motion is imper-

ceptible. They seem “too *lazy*” to breathe deeply, apparently intent on doing with as *little* breath as possible. How amazing, when breath is so important, and cheap! And most of us might live many times faster and better, solely by redoubling our breathing. How can this be done?

BY DIAPHRAGM breathing. All animals, without any exception, breathe with their diaphragms, even more than with their ribs; while most men, and nearly all women, breathe almost wholly with their ribs, but scarcely at all with their diaphragms. This is consequent mainly on sitting bent forward in the school-room, and on females suspending their apparel mostly from their hips, by bands which press just *below* the diaphragm, so as to prevent its easy downward motion, till they fall into the *habit* of breathing without it. All apparel of men, women, and children should depend from the *shoulders*, not hips; and its weight should be made to pass down more behind than before, so as to help keep the body *straight*, not bend it forward.

MOST LADIES, by noticing their own chests as they disrobe, will see that their breath goes down only five or six inches; whereas every breath should move their whole chest, bowels included. Learn, then, to fill the lungs *full*, as in taking a long breath; that is, make *every* breath a long one.

THIS EXPERIMENT will tell all whether and how far they breathe with their diaphragm: Press your hand on the *lower* part of your bowels, and note whether, and how far, they heave at every breath; for in *right* breathing they heave as much as the chest. Those in whom they do not heave thus should inhale full, deep, long inspirations till their bowels *do* move; and keep on trying and observing till they have formed the *habit* of breathing as *deeply* as possible. That is, they should press in, and press out, all the air they can at every breath. See how heavy horses heave their abdomens! The lower lobes of the lungs are by far the largest; so that diaphragm-breathing gives twice or thrice more breath than rib-breathing. We all need all the breath we can get from *both* sources.

THE BOWELS also require motion, in order to help push the food forward through them.¹¹⁵ Their dormancy renders all the other functions dormant, while their action vivifies all. Diaphragm-breathing also prevents and cures dyspepsia, which mere rib-breathing occasions.¹¹⁶

BREATHING THROUGH THE NOSE is far better than through the mouth. Any dust in the air lodges in the nose, whence it is easily

expelled. What animal ever breathes through the mouth, except in lolling, or almost overcome from heat?

INDIAN MOTHERS are very particular to teach their children to breathe only through their noses; and Indians consider those antagonists who breathe with open mouths weak, and easily conquered.

OPEN MOUTHS LOOK badly. Please note how awkwardly and badly gaping mouths appear.

ALL FRAGRANCE is caught and appropriated by nasal breathing, which undoubtedly, as it were, *electrifies* the system with odors, good, bad, and indifferent. Breathe bad-smelling air through your mouth, and then spit right afterwards.

85.—THE BREATHING CURE.

THE BREATHING PATHY is by far the most efficacious of all the cures. The Author hit upon it thus. When he first established his Philadelphia office, in January, 1838, he opened courses of lectures in several places at once, thus lecturing every evening. They brought such crowds for examinations, as finally to completely exhaust him, compelling him, with all his hardihood, to dismiss callers, crawl up stairs by the banisters, and throw himself upon the lounge; when he involuntarily fell to panting, or breathing deep and fast, as if perishing for more breath, as one sometimes will when all beat out.

THIS EXTRA breathing soon made him dizzy, by thinning a part, but only a part, of his blood. Reaction presently sent the blood bounding and rushing throughout his system, producing a prickling sensation all through those parts most exercised.

LECTURE TIME arrived, after about half an hour's breathing. He arose, and walking on to find a cab to take him to his lecture-room, was surprised to find himself so much stronger than he had supposed possible, that he walked on and on, two and a half miles, to Northern Liberty Hall, gave altogether the best lecture of the course, and walking home, set down to his desk and wrote *with all his might*, seemingly as by inspiration, *until after sunrise* the next morning, without food or sleep, just on the extra strength he had derived from that extra breathing. And thousands of times since, when "all beat out" by office labors, though it *takes* something to tire *him*, throwing himself on his back, first opening doors and windows, by thus breathing deeply and fast, he has established this reaction and consequent glow, risen in from five to fifteen, sometimes in two minutes, completely rested and re-invigorated, and been able to hold his audience for

hours. He considers, as all who know him consider, his ability to endure labor, not merely astonishing, but seemingly in defiance of all known laws of physiology, due mainly to this mode of respiration.

GENERAL LYON incidentally confirmed and illustrated this breathing cure thus. At dinner, in Detroit, in 1849, he said,—

“PROFESSOR FOWLER, I love to ask scientific men hard questions, and want you to explain this physiological anomaly. Almost ever since you examined my phrenology in Washington, ten years ago, I have been the surveyor-general of three new States, and spent most of my time in the woods surveying; have taken corps after corps of men from behind the desks of lawyers and counters of merchants, many of them city reared and white livered, right out into the woods in mid-winter, with one buffalo robe spread upon the snow under, and another over us, often soon snowed under, without even a tent, and perhaps wet up to their waist besides in traversing swamps and marshes, and yet never knew one of these city pampered men to catch cold on *going into* the woods; but I never brought a corps of young men *into* a city but in three days every one of them was barking with a cold. Now why should none take cold on going *into* the woods, but none escape it on coming *out*?”

“YOUR PUZZLE, general, is easily solved by this physiological fact, that since breathing thins the blood, their extra breathing of fresh cold air in the woods sent their blood bounding to their skin so thinned by oxygen that it circulated freely at the surface, thus both protecting it against changes of temperature, and converting external cold into internal warmth; whereas, on coming into the city, they breathed the spent air of a stived-up seven by nine bed-room, which left their blood too thick to flow to and protect their skins, and thus predisposed them to colds.”

ARMY EXPERIENCES also illustrate the efficacy of this breathing cure on a large scale. Soldiers by the hundred thousand find themselves immeasurably better in the field, notwithstanding all their exposures, than when at home; because, breathing copiously of fresh air promotes every other function, and expels disease with marvellous efficacy. But for its dysentery, consequent on its poor and changed water, army life would be healthier than city.

TWENTY-FOUR years ago, in his phrenological journal, the Author propounded this breathing-cure tonic and restorative, which is often quoted, in common with others having a like origin, minus the origin. Still the ideas are just as good *without* credit as with. Thanks for their dissemination.

ALL CURES WILL BE AIDED by this breathing cure. Whether you

take "calomel and jalap," or little pills, or all sorts of pills, or the water cure, or any other cure, just superadd this *deep and fast breathing* cure, and you will recover as if by magic, yet probably attribute your cure to other sources. It is at least both *cheap* and *handy*.

SECTION IV.

CONSUMPTION; ITS CAUSES, PREVENTION, AND CURE.

86.—HOW TO STAVE OFF A TENDENCY TO CONSUMPTION.

SUPPURATION of the lungs, and their consequent destruction, is called consumption; though sometimes other organs are similarly consumed.

A TENDENCY to consumption is sometimes *inherited*,⁵¹² that is, often attacks the children and relatives of those who die with it; yet, strictly speaking, Nature never transmits diseased organs, but only weakly ones. No matter how consumptive your parents and relatives may have been, you can escape it altogether by giving Nature a chance to counteract this tendency. She will not begin any life she cannot consummate. "Passably good, or none; nothing rather than bad," is her motto. All endowed with strength enough to be born alive, can, by proper regimen, attain full maturity, and grow stronger up to a good age; for Nature interdicts parentage to those either too young or old, or too debilitated, diseased, deformed, or depraved, to impart sufficient vigor to offspring to allow them to live a good life; thereby forestalling whatever imperfections would otherwise spoil her children.

GROWTH also counteracts even this entailed lung weakness, as it does all others, by causing all weak organs to grow relatively the fastest, and then compelling all strong ones to succor all the weak ones; on the well-known principle of balance already demonstrated.^{58 61} How often do weakly children grow stronger with age, and make healthy adults? No matter how consumptive you are by nature, observing the health laws and cultivating your lungs will enable you to surmount all such consumptive tendencies.

THOSE WHO INHERIT this consumptive taint absolutely must do these two things—keep up a good supply of vitality⁷⁴ by nurturing all their recuperative functions, and break up colds as soon as they contract.⁴¹ But if they work themselves clear down, which they are

apt to do, because this consumptive taint *consists* in more activity than vitality, and then allow colds to set in and redouble on them, they endanger consumption. They *must not* become permanently tired out, nor worn down, nor used up ; but must keep well rested up and slept out.¹⁴³

LUNG EXERCISE is another great preventive. Those thus predisposed should read loud daily, sing loudly, hallo, talk much, speak in public, breathe deeply, anything demanding lung action ; yet be careful not to tax them beyond their strength.⁶²

WARM EXTREMITIES are to such most important, as cold hands and feet accompany, if they do not even constitute the first stage of this malady, by signifying a susceptibility to colds, because the surface circulation has become impaired. Such should promote circulation, and *keep warm* at any cost.

HOWEVER consumptively preinclined, as long as you keep your pores open, you may snap your fingers at consumption and the doctors.

A FOUL STOMACH often causes expectoration. Good lungs expel the foul matter generated by food decaying in the stomach, or by alcoholic drinks, etc., occasioning consumptive symptoms simply because the lungs are strong enough to expel this corruption, not because they are consumptive.²³

THE SIGNS of consumptive tendencies are, that those thus preinclined are generally tall, slim, long-fingered and limbed, spindling, small and narrow-chested ; inclined to sit and walk stooping, with their shoulders thrown forwards and inwards, because their small lungs and stomachs cause a pectoral caving in ; sink in where the arms join the body ; have a long neck, sunken cheeks, long faces, sharp features, a pallid countenance, light complexion, a thin, soft, and delicate skin, light and fine hair, a somewhat hollow, exhausted, ghastly aspect ; long and rounding finger nails ; cold hands and feet, with general chilliness and wakefulness at night ; great excitability ; very active minds ; clear thoughts ; excellent natural abilities ; intense feelings ; rapidity of motion, and a hurried manner ; are easily startled and inspired ; and have a decided predominance of the mental temperament over the vital, and head over body.

THE FACIAL POLARITY of constitutional consumptives is always sunken. In proportion as, when laughing, that muscular ridge running across the face from nose to cheek bones is the larger the less consumptive tendency there is. and the thinner and small this

muscle the more consumptive one is by Nature. I never yet missed telling by this sign, whether any person was or was not from a consumptive stock. Those sunken below their eyes, where this hectic flush appears, and falling in at L, or under the cheek bone, and between it and the middle of the nose, are predisposed to consumption ; while those full there are not. This sign is infallible.

GRANVILLE MELLEŒ, the poet, who died of this disease, gives a good general idea of the form of the face and person of consumptives ; yet those of full, fleshy habits may be predisposed to pneumonia or quick consumption, though equally so to all other local inflammations and diseases, because their systems are exceedingly excitable.

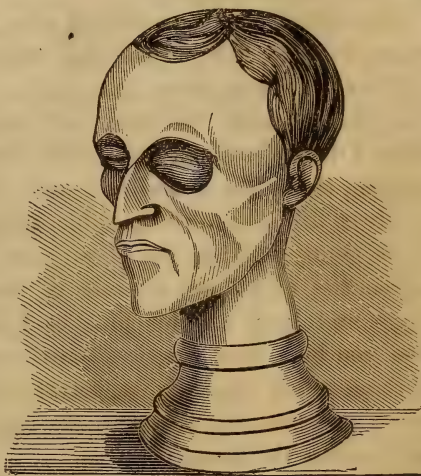
THE SMALL LUNGS and hearts of those predisposed to this disease render their circulation imperfect. To promote this should then be their first end. Whatever, therefore, tends to retard the flow of blood, especially at the surface, such as sedentary pursuits, confinement within doors, and particularly in heated rooms, habitual sewing, a cramped and bending posture, severe

mental application, impure skin, sudden atmospheric changes, colds, and the like, should be sedulously avoided ; whereas, a light diet, fresh air, out-of-door pursuits, abundant sleep, vigorous exercise, a warm climate, and free circulation tend to prevent it. Keep the SKIN clean and active, and you are safe.¹³⁹

TIGHT-LACING is most pernicious to those thus predisposed, because it cramps the lungs, prevents their inflation, inflames them, shuts out oxygen, the deficiency of which is the great cause of this disease, curtails the action of the whole vital apparatus, and consequent supply of vitality, occasions adhesions, and in many other ways induces this disease. No language can tell the number of premature deaths, of both mothers and their offspring, occasioned by this accursed practice.

To girt up the vital organs is to commit virtual suicide.⁶⁰⁶

A CONSUMPTIVE VICTIM.



No. 94.—GRANVILLE MELLEŒ.

HOT DRINKS, especially tea and coffee, are also injurious, because they increase the liability to take colds, and fever the nervous system, already far too excitable. By causing a hot flush of perspiration, followed by cold chills, their effects are really awful. Drink warm drinks only when you wish to perspire.

EXERCISE in the open air is also especially beneficial. Yet be very careful not to *overdo*, which is the great fault of consumptives, because their nerves are too active for their strength. *Alternate* rest and exercise, with abundance of fresh air, are your best preventives. Compared with them medicines are powerless. Doctor little, but *invigorate your general health*.

THE CHEST should be rubbed often, with the hand of a healthy and robust friend. Let mothers and nurses rub narrow-chested children.

FULL AND FREQUENT BREATHING is especially advantageous. In this alone consists the virtue of Rammage's tube. Yet it can be effected better without than with any kind of tube. Sit or stand straight, throw the arms back and chest forward, and then draw in slowly as full a breath as possible, and hold it for some seconds, meanwhile gently striking the chest, so as to force the air down into the extremities of all the air-cells of the lungs, as well as enlarge the lungs, and keep up this practice habitually, and consumption will pass you by. Few practices contribute more to general health. An erect posture is especially important, and warping forward and inward, which consumptives are apt to do, very detrimental, because it cramps and impairs the lungs.

SEA VOYAGES are much recommended, and also southern climates. Both, by promoting *surface* circulation and perspiration, are eminently beneficial. Yet if the same ends can be obtained at home the effect will be the same, and all the evils incident to voyages, absence from home, exposures, etc., be avoided. Southern climates are even less favorable to consumptives than northern, because of the rarefied state of the atmosphere, and consequent deficiency of oxygen, one of the main elements required by consumptives. Inhaling oxygen gas, perhaps, somewhat diluted, will prove eminently serviceable. Whatever will cure this disease will prevent it, and the reverse.

87.—THE CURE OF CONSUMPTION.

COLDS BEGIN, and consummate this terrible business; hence, to prevent it, *they* absolutely must be prevented somehow. Anything, in fact, everything to prevent, and after they are taken, to break them up. Unless you do prevent them, expect to be overtaken by consumption.

A UNIFORM TEMPERATURE is their first and best preventive, while sudden changes in the weather are most detrimental. One uniformly warm is the best. Probably Santa Fé, San Diego, and the Pacific coast below San Francisco, Cal., are the best places in the world for consumptive patients, for their temperature is about 75° the year round, and nearly the same night and day. This is substantially the case with the city of Mexico, and pre-eminently of Lower California. Florida is also even in temperature, but damp, while the base of the Rocky Mountains is dry, yet changeable. But those who must stay where they are, should house themselves when it is cold, keep their room about so warm, and use clothing enough not to take any more cold ; varying it according as the weather is warmer or colder.

A CHANGE of climate will often effect a radical cure. Thousands who cannot live at the north, on account of these changes and colds, live and are healthy at the south, or south-west, north-west, or California. But don't

WAIT TOO LONG before you emigrate. You must never go to the north-west unless you have sufficient vitality to withstand its bracing cold, or it will hurry you right off ; and those struck with a consumptive attack generally would live longer at home, and better.

HOP SYRUP, made by boiling hops in water, straining, boiling down, adding molasses, simmering down, then superadding lemon, and taking enough to keep the bowels free, its proportions, whether more sweet or more bitter, immaterial, taken on retiring, will promote sleep, the hops quieting, besides unloading disease through the bowels. It must be made fresh every three or four days, or preserved by adding spirits, or boiling down till it will keep.

SPIRITUOUS LIQUORS will benefit those whose stomachs do not furnish sufficient carbon, but injure those in whom carbon super-abounds, as it generally does. But when the stomach supplies too little carbon, they furnish it, help warm, and prolong life, and even restore it.¹²⁵

BUTTERMILK AND BONNYCLABBER, sweetened, will sometimes effect a cure, and at all times benefit. The Author, at sixteen, induced a very consumptive attack ; took only bread and sweetened buttermilk, prescribed by a neighbor, an elderly lady ; was benefited by it from the first day of its use, and every day, and recovered in about three months. It soon becomes palatable.

THE GREAT PRINCIPLE of the cure centres just here. As the lungs waste away, they furnish the less oxygen. A given amount of carbon can combine with only its "fixed equivalent" of oxygen.¹³² There-

fore, since feeble lungs introduce but little oxygen, of course the *stomach* must introduce only a proportionate amount of carbon. All must eat the more or the less, accordingly as they *breathe* the more or the less. Since consumptives can breathe but little, they must eat but little. Yet many of them have a ravenous appetite, consequent on an inflamed stomach,¹²⁴ which loads down their systems with surplus carbon, only to compel their small and inflamed lungs to *cast it out* in *addition* to supporting them. Starvation is bad, so is surplus aliment. If, and as far as, this yellow matter comes from surplus carbon, the more food the more carbon and expectoration.¹¹³ Abstemiousness is the remedy for such.

THIS EXPERIMENT will furnish a decisive test. Eat very little for several days, and if you feel lighter, calmer, pleasanter, and better, know that you are eating too much relatively for your breathing. The patient can determine this important matter better than the doctor.

COPIOUS NIGHT SWEATS probably consist in an effort of Nature to carry off disease through the skin, which they leave peculiarly susceptible to colds; so be doubly careful to keep warm by tucking in your bed-clothes till after they have subsided.

DON'T COUGH any more than you really must, and then only to raise. To cough because you feel a tickling irritation, only increases it. Breathe on as long as possible without coughing, raise all you can while coughing, and stop coughing as soon as possible.

SECTION V.

VENTILATION, ITS NECESSITY, MEANS, ETC.

88.—REQUISITION FOR FRESH AIR.

WELL-OXYGENATED AIR is alone fit for breathing; which is necessary chiefly because oxygen is necessary. But breathing consumes about half its vitalizing properties; besides charging it with carbonic acid gas. About five-sixths of the oxygen imbibed is excreted in this gas, which is most deleterious. A good pair of lungs, in average action, consumes about two hundred and fifty cubic feet of air every twenty-four hours, and expires about *eighteen thousand* cubic inches of carbonic acid gas; enough to make *five and a half ounces* of solid carbon! Breathing both oxygenizes and *decarbonizes* the blood.

Arterial blood contains of oxygen $\frac{2.3}{100}$, carbonic acid only $\frac{.63}{100}$, while venous blood contains of oxygen but $\frac{1.5}{100}$, yet of carbonic acid $\frac{7.1}{100}$. These figures show how great is the consumption of the vitalizing properties of the air breathed, as well as how great its vitiation by breathing; while the perpetual experience and instinct of all human beings and animals attest the absolute necessity for constant and copious re-supplies of fresh and well-oxygenated air. How dull and stupid all feel after sitting awhile in a hot room, especially if heated by an air-tight stove, which is unfit for use; because, while it rarefies the air so that we breathe but little, it prevents its circulation in the room, so that we soon breathe out most of its oxygen. Hence the accompanying stagnation of the blood, and lethargy of body and mind. But strike out into the fresh air, and how differently you feel! How lively in body! How brisk in all the feelings! How clear in mind! How happy the whole man! Every human being ought to spend several hours every day, cold and warm, in the open air, coupled with much bodily action. Four hours of out-door breathing daily, is the least time compatible with health for adults, though ten are better; while children require a greater amount of both, because they have, or ought to have, a *higher temperature* and greater circulation, which has more to do in them than in adults—has to *build up*, as well as sustain their system. This shutting them up in the house, even in cold weather; this being so afraid of a little fresh, cool air, is consummate folly—is downright murder; for there is no numbering the deaths this extra carefulness occasions. Cool air is not poisonous, but more healthy than warm; because, for its bulk, it contains more oxygen, that great quickener of the blood, and stimulator of muscular, nervous, and cerebral action.⁸² If a heated atmosphere had been best for man, Nature would have heated it; but it relaxes. All the inhabitants of the tropics are indolent, mentally and physically. All northerners, however active, are rendered inert in warm climates. Hence the requisition of more or less cold to stir up the system. Unless you would make stupid blockheads of your children, do not keep them shut up in a hot-stove room. However cold it is, let them go out, as all children delight to, and their lungs will soon warm them up and keep them warm. If your dear, darling, delicate, puny child is indeed so weak that fresh air gives it a cold, you ought to be sent to prison for rendering it thus tender; rather, ought not to have any child.

SCHOOLS are great disease breeders. Children require an abundance of exercise and fresh air, instead of being packed into small and

over-heated rooms, just to "sit on a bench, and say A." To keep them thus pining for breath and action *one quarter* of their lives, and the balance hardly better, signs, seals, and delivers the death-warrant of many a loved and lovely bud of humanity. Our children do not get half air enough. This occasions their being puny, sickly, and mortal. No wonder that half of them die in childhood. The wonder is that more do not. All children should be rosy; while most juveniles, in these days, look pale and haggard. The city is no place to bring up children. They cannot go out of doors for fear of getting lost or run over; nor play within, because ma, grandma, or aunt is sick. Nor can they obtain fresh air in coal-heated nurseries or kitchens. God made the country, man the city. The country is the place for them. But, parents, whether you inhabit city or country, see to it that your children have a full supply of fresh air *daily and perpetually*. Hear Andrew Combe on this subject of ventilation:—

"The fatal effects of breathing highly vitiated air may easily be made the subject of experiment. When a mouse is confined in a large and tight glass jar full of air, it seems for a short time to experience no inconvenience; but in proportion as the consumption of oxygen and the exhalation of carbonic acid proceed, it begins to show symptoms of uneasiness, and to pant in its breathing, as if struggling for air, and in a few hours it dies, convulsed exactly as if drowned or strangulated. The same results follow the deprivation of air in man, and in all animated beings; and in hanging, death results not from dislocation of the neck, as is often supposed, but simply because the interruption of the breathing prevents the necessary changes from taking place in the constitution of the blood.

"The horrible fate of the one hundred and forty-six Englishmen who were shut up in the Black Hole of Calcutta, in 1756, is strikingly illustrative of the destructive consequences of an inadequate supply of air. The whole of them were thrust into a confined place, eighteen feet square. There were only two very small windows by which air could be admitted, and as both of these were on the same side, ventilation was utterly impossible. Scarcely was the door shut upon the prisoners when their sufferings commenced, and in a short time a delirious and mortal struggle ensued to get near the windows. Within four hours, those who survived lay in the silence of apoplectic stupor; and at the end of six hours, *ninety-six* were relieved by death! In the morning, when the doors were opened, twenty-three only were found alive, many of whom were subsequently cut off by putrid fever, caused by the dreadful effluvia and corruption of the air.

"But it may be said, such a catastrophe as the above could happen only among a barbarous and ignorant people. One would think so; and yet such is the ignorance prevailing among ourselves, that more than one parallel to it can be pointed out even in our own history. Of two instances to which I allude, one has lately been published in the 'Life

of Crabbe,' the poet. When ten or eleven years of age, Crabbe was sent to a school at Bungay. 'Soon after his arrival, he had a very narrow escape. He and several of his school-fellows were punished for playing at soldiers, by being put into a large dog-kennel, known by the terrible name of the "Black Hole." George was the first that entered, and the place being crammed full with offenders, the atmosphere soon became pestilentially close. The poor boy in vain shrieked that he was about to be suffocated. At last, in despair, he bit the lad next to him violently in the hand; "Crabbe is dying, Crabbe is dying!" roared the sufferer; and the sentinel at length opened the door, and allowed the boys to rush out into the air.' My father said, 'A minute more and I must have died.'"—*Crabbe's Life, by his Son.*

"The other instance is recorded in Walpole's Letters, and is the more memorable, because it was the pure result of brutal ignorance, and not at all of cruelty or design. 'There has been lately,' says Walpole, 'the most shocking scene of murder imaginable: a parcel of *drunken* constables took it into their heads to put the laws in execution against *disorderly* persons, and so took up every person they met, till they had collected five or six and twenty, all of whom they thrust into St. Martin's round-house, where they kept them all night, with doors and windows closed. The poor creatures, who could not stir or breathe, screamed as long as they had any breath left, begging at least for water; one poor wretch said she was worth eighteen pence, and would gladly give it for a draught of water, but in vain! So well did they keep them there, that in the morning four were found stifled to death; two died soon after, and a dozen more are in a shocking way. In short, it is horrid to think what the poor creatures suffered: several of them were beggars, who, from having no lodging, were necessarily found on the street, and others honest, laboring women.'

"I do not mean to say, that in all the above instances the fatal results were attributable exclusively to vitiation of the air by breathing. Fixed air may have been disengaged also from some other source, but the deteriorating influence of respiration, where no ventilation is possible, cannot be doubted. According to Dr. Bostock's estimate, an average sized man consumes about 45,000 cubic inches of oxygen, and gives out about 40,000 of carbonic acid in twenty-four hours, or 18,750 of oxygen, and 16,666 of carbonic acid in ten hours, which is nearly the time during which the sufferers had remained in the cabin before they were found. As they were two in number, the quantity of oxygen which would have been required for their consumption was equal to 37,500 cubic inches, while the carbonic acid given out would amount to upwards of 32,000 inches—a source of impurity which, added to the constant exhalation of waste matter and animal effluvia from the lungs, was manifestly quite equal to the production of the serious consequences which ensued from it, and which no one, properly acquainted with the conditions essential to healthy respiration, would ever have wilfully encountered. Even supposing that the cause of death was some disengagement of gas within the vessel, it is still certain that, had the means of ventilation been adequately provided, this gas would have been so much diluted, and so quickly dispersed, that it would have been comparatively innocuous.

"The best and most experienced medical officers of the army and

navy, are always the most earnest in insisting on thorough ventilation as a chief preservative of health, and as indispensable for the recovery of the sick. Sir George Ballingal recurs to it frequently, and shows the importance attached to it by Sir John Pringle, Dr. Jackson, Sir Gilbert Blane, and others of equally high authority. Sir John Pringle speaks of hospitals being, in his day, the causes of much sickness, and of frequent deaths, 'on account of the bad air, and other inconveniences attending them;' and Dr. Jackson, in insisting on 'height of roof as a property of great importance in a house appropriated to the reception of the sick of armies,' adds as the reason, that 'the air being contaminated by the breathings of a crowd of people in a confined space, disease is originated, and mortality is multiplied to an extraordinary extent. It was often proved in the history of the late war, that *more human life was destroyed by accumulating sick men in low and ill-ventilated apartments, than by leaving them exposed, in severe and inclement weather, at the side of a hedge or common dike.*'

"In the same volume (p. 114) the reader will find another example not less painful than instructive of the evils arising, first, from crowding together a greater number of human beings than the air of the apartment can sustain, and, secondly, from the total neglect of scientific rules in effecting ventilation. In the summer of 1811, a low typhoid fever broke out in the 4th battalion of the Royals, then quartered in Stirling Castle. In many instances violent inflammation of the lungs supervened, and the result of the two diseases was generally fatal. On investigating the circumstances of this fever, it was found that rooms of twenty-one feet by eighteen were occupied by *sixty* men, and that others of thirty-one feet by twenty-one were occupied by *seventy-two* men! To prevent suffocation the windows were kept open all night, so that the men were exposed at once to strong currents of cold air, and to 'the heated and concentrated animal effluvia necessarily existing in such crowded apartments; thus subjecting them to the combined effects of typhus fever and of pneumonic inflammation. In the less crowded apartments of the same barrack no instance of fever occurred.' The men who were directly in the way of the current of cold air, were of course those who suffered from inflammation.

"Mr. Carmichael justly regards impure air as one of the most powerful causes of scrofula, and accounts for the extreme prevalence of the disease in the Dublin House of Industry at the time he wrote (1809), by mentioning, that in one ward of moderate height, sixty feet by eighteen, there were *thirty-eight* beds, each containing *three* children, or more than one hundred in all! The matron told Mr. Carmichael, that 'there is no enduring the air of this apartment when the doors are first thrown open in the morning; and that it is in vain to raise any of the windows, as those children who happened to be inconvenienced by the cold, close them as soon as they have an opportunity. The air they breathe in the day is little better: many are confined to the apartments they sleep in, or crowded to the number of several hundreds in the school-room.' Can any one read this account, and wonder at the prevalence of scrofula under such circumstances?"

89.—THE VENTILATION OF DWELLINGS, DORMITORIES, CHURCHES, AND LECTURE-ROOMS; BLUE VEINS; POSTURE, ETC.

CITIZENS spend a large part of their time within doors, in domiciles and places of business, amusements, etc., and countrymen average over half; while the ladies of both city and country live mostly within their own homes or churches; and many children are perpetually housed. All this, though wrong, is a *fact*, and likely to *continue*.

THE VENTILATION OF HOUSES, then, becomes as important to those who live mostly within doors, as good breathing timber is valuable.⁷⁹ This subject is beginning to engage public attention, but by no means in proportion to its intrinsic merits. All the rooms in all houses should be furnished at their top with a ventilator for the escape of *foul* air, which will allow fresh air to enter; while the bad air which settles at their bottom can easily be drawn off by suction, and made to support the combustion of the fires used about the house. We shall treat the *means* of effecting this desirable end hereafter,¹⁸⁹ but simply show its importance here. He will prove a great public benefactor who propounds some simple yet efficacious means of domiciliary ventilation; and all architects should give this subject their special attention.

DORMITORY ventilation is of course equally important, yet more neglected. Opening outside doors often by day helps to change the air of sitting-rooms in the daytime, but not of bed-chambers.

TEXANS, when asked why they lived in houses with openings large enough to crawl through, replied:

“Because they are more healthy than tight ones.”

NORTHERN houses take too much pains to keep out their best doctor, cool air. No medicines are equally efficacious to prevent or cure any and all ailments.⁸⁵ And this doctor charges as much *less than nothing* as it costs to shut him out.

SMALL BED-ROOMS, ten feet square and seven high, contain seven hundred cubic feet of air. Two persons sleeping together in it consume about one hundred and sixty feet in eight hours' sleep, and probably more; for we naturally breathe deeper and more when asleep than ordinarily when awake. The two have inhaled about *one-fourth* of its air, excreted about *twelve thousand* square inches of carbonic acid gas, or nearly enough to make *four ounces of solid carbon*! Carbonic acid gas is a deadly poison. This is what kills those suffocated by the burning of charcoal in close rooms; and turns the venous blood

dark. Perhaps a light burning for hours in your bedroom has already both consumed its oxygen, and loaded it with carbonic acid gas. Perhaps others have been sleeping in it night after night for months with little ventilation; so that its stench is intolerable till you become accustomed to it. On no account sleep in any dark bed-room, which does not allow of *through* ventilation, by windows and fireplace, if not by one or more doors and windows, so as to keep *changing* your air perpetually during the night. Make ample provision for this change before you retire. Most persons spend *one-third of their lives*, two in a bed, in little eight by ten bedrooms, containing only five or six hundred cubic feet of air, and that vitiated to begin with, and stuff every crevice and key-hole besides; breathing over and over one-third of this poor air, making it almost thick with carbonic acid gas, and then wonder why they fall sick,—perhaps ascribing to divine Providence what belongs to foul air!⁷²

SIX OPERATIVES often sleep all night in a little room not exceeding ten feet square and seven high! No wonder their vocation is unhealthy. How repulsive is the smell of bedrooms generally in the morning, observable on quitting them a few minutes and returning. Instead of being thus miserably supplied with fresh air, they should be large, and especially high, and arranged so as to admit free ventilation. A draught directly upon you may be objectionable, yet even this is far better than confined air, and can be rendered harmless by a good supply of bed-clothes—though the less of these, and keep comfortable, the better. Large, airy sleeping apartments would add one-fourth to the aggregate duration and efficiency of life. They should be the largest rooms in our houses.

NIGHT AIR is generally considered unwholesome, and often pestilential; than which nothing is more unfounded. What! the Deity render night air unwholesome, and yet compel us to breathe it! This supposition conflicts with the whole economy of Nature. If it had been really injurious, she would have allowed us to sleep without breathing; for she never compels the least thing detrimental. It is equally as wholesome as day air. It may be damper, but that does not hurt it for breathing. It is usually cooler, and, therefore, contains more oxygen, and hence is even better than day air, at least for sleeping purposes. Why are we so restless in hot summer nights, and why do we sleep so sweetly, and awake so invigorated in cold fall nights, but because the needed supply of oxygen is so much greater in the latter? So far from its being injurious, sleeping with

open windows greatly promotes health, even in stormy, boisterous weather. Many who sleep thus summer and winter are remarkably robust and healthy. Yet this practice should be adopted by degrees, so as not to give cold.

WE SHOULD ATTEND to breathing even more than to eating ; and make provision for a constant re-supply of fresh air even more than for good food. And parents, see that your children have it in luxurious abundance, night and day.

CHURCHES, lecture-rooms, theatres, vestries, billiard-rooms, depots, and places of public resort require more ventilation. A public place, forty by sixty, ten feet high, containing twenty-four thousand cubic feet of perhaps poor air, is packed for two hours with a thousand persons. This gives twenty-four square feet to each one, barely enough for *one hour's* breathing timber. If it is fifteen feet high, it contains only enough for an hour and a half. All are breathing over and over again the identical air just expired by their tobacco and rum-feted listeners on both sides. Each expires about *three thousand* cubic inches of carbonic acid gas,—*three hundred thousand* in all,—enough to make *seventy-five ounces* of solid carbon ! All this, besides all the other fetid and noxious gases emptied into the room from foul breaths, and still fouler stomachs ! To eat and drink after others, even though tidy, is considered really vulgar ; but to *breathe* after them, however reeking with tobacco and bad whiskey, is “all right ;” while, in point of fact, to breathe the foul, spent air, just robbed and vitiated by another, is far more utterly “*nasty*” than to eat out of their unwashed dishes.

BLUE VEINS signify insufficient breath. The darker the blood, the greater the amount of carbon it contains. Now this carbon should pass off through the lungs, and it will do so when we breathe abundantly. But when too little nitrogen is brought alongside of the carbonic acid contained in the blood to carry it off, it must return with the blood into the system ; and, being a rank poison as well as stagnating, it poisons and prostrates the vital organs, diminishes life, and engenders disease. Blue veins in children or adults indicate this poison, or insufficient breathing. Let such both eat less and breathe more, so as to thin and redden their blood. True, the blood in the veins should be dark, but not dark enough to show through. And when visibly dark, see to it, as you value life, that this powerful disease-breeder is removed.

POSTURE thus becomes immeasurably important. Sitting, walking,

working, etc., bent forward, presses the shoulders and ribs in upon the lungs, which of course so cramps them as to retard their full inflation. One in an erect posture will naturally breathe about one-fourth more continually than in a stooping, and of course live, enjoy, and accomplish that much more. Think what a difference! See that it makes *for* life in your case, not against it.

LOOKS, in these days, too, are everything. Think what men, and especially women, spend solely on appearances in dress, furniture, style, etc.; and then think how immeasurably *better* the same person looks when erect than when bent forward. Erectness signifies nobleness and pride, while crouching expresses either humility or feebleness, as in declining age.

SIT, STAND, WORK, WRITE, LIE, and WALK ERECTLY always; and train your children up in this habit. The Author has known many dyspeptic and consumptive ladies *cured* solely by wearing suspenders which attached their apparel to their shoulders, and passed back down over their shoulder-blades, thus pressing them inwards and keeping them straight. Only seeing or experiencing the different effects on mind and body of different postures, can at all impress the practical importance of a position permanently erect, especially in juveniles.

CHAPTER II.

FOOD : ITS NECESSITY, SELECTION, MASTICATION, DIGESTION, APPROPRIATION, AND EXCRETION.

SECTION I.

APPETITE ; ITS ANALYSIS, ADAPTATION, OFFICE, AND DESCRIPTION.

90.—NECESSITY FOR ORGANIC MATERIAL.

ORGANIC MATERIAL is as indispensable to life as are organs themselves ; and for precisely the same reason.²⁵ Before the life germ can execute any of its functions, and in order thereto, it must have organs ; but must *manufacture* them before it can have them, and must first obtain *materials* out of which to make them before it can make them ; so that supplying it with these organic materials is Nature's first and most important means of manifesting life. Food supplies this material and its necessity is paramount.

FITNESS is her first organic prerequisite. The life force cannot use any and everything ; but must have just *the precise* materials necessary for manufacturing bones, muscles, brain, nerves, tissues, skin, hair, nails, etc. Where can they be obtained ? Nature has laid up no specific storehouse where alone they can be had ; unless all Nature is such a store. They must be *brought to* the life germ, all solved, and ready to be made into organs, and it must make up, before it can put forth functions. Parental agency supplies enough merely to *start* its first rude tenement, till it can construct one more perfect than finite minds can imagine. Babies are a constructive marvel. What human workmanship bears any comparison with their organic construction ?⁶³³

INDIVIDUAL life, in which each one is allowed to go, come, and do, *in propria persona*, necessitates an early parental separation, which presupposes a supply of the raw organic material to each human being. An entire chapter in "Sexual Science" is devoted to the proper *feeding* of children.⁶³³⁻⁶⁴⁷

SUBSTANCES PREVIOUSLY ORGANIZED are alone edible, alone can feed man, beast, fish, fowl, and insect. Rocks are formed from gases, a cubic foot of limestone rock containing fifteen thousand cubic feet of various gases. Rocks, decomposed by time and atmospheric agencies, make soil, from which vegetables derive their growth and properties. Rocks compose and feed the soil, which feeds vegetables, and they support animals and man. Worms, grasshoppers, etc., feed on vegetables, fowls on them, and man on fowls: all food being derived from the vegetable kingdom. Of course vegetable seeds, such as grain, nuts, etc., constitute the heartiest kind of vegetable food. Nearly all that grows feeds something; for Nature is a great practical *economizer* of all her time, space, materials, resources, and everything.

THE REPAIR of organs is about as important as their manufacture. All use, whether of tools, apparel, or bodily organs, *wears* them out—fritters away their materials. Every function of the body and mind *uses up* its organ. If all organs wore on forever, remaining just as good as new, they would never need repair, but every organ is perpetually *consuming* its own materials, and must be constantly “undergoing repairs.”

A FULL SUPPLY of food, first to manufacture organs, and then to keep them in perfect “running order,” all through life, therefore, becomes, next to breathing, “first among equals” in the life process.

ALBUMEN contains most of these organic ingredients. Dirt, stones, minerals, earth, glass, etc., do not, but vegetables do, eliminate them from the soil by means of light, heat, air, moisture, etc., and thus become edible, because they possess the organic ingredients needed by the human organism.

ONE KIND of vegetable contains, as one kind of animal requires, one *proportion* of these ingredients, and another another; so that each kind of animal, fish, fowl, reptile, worm, insect, etc., must have, and is thus supplied with, a kind of food exactly adapted to its specific needs.

TO ASSURE this required supply, and that of the right kind, becomes as necessary as life itself is important. No casual nor temporary provision will at all answer this great purpose. It must accompany life everywhere, and even constitute an integral *part* of it, as well as be inseparable from it—must needs form a constituent of the *mind*, and be executed by one of its primary *Faculties*.³⁴

Here is a distinct class of functions to be carried forward, and a

great and indispensable end to be attained—that of feeding ; both of which presuppose a primary mental power.

APPETITE is this Faculty. It creates a relish for food, hankers after it, and when denied it, begets *hunger*, one of the fiercest and most resistless of all the human desires and passions. Without it, little eating would ever be done. Neither reason, nor observation, not even experience, could ever *guarantee* the proper feeding of the

ALIMENTIVENESS VERY LARGE.



No. 95.—THE EMPEROR VITELLIUS.

body. Only a powerful *propensity* to eat could possibly render this feeding sure, and predetermine its best time, amount, kinds, etc.

II. APPETITE OR “ALIMENTIVENESS.”

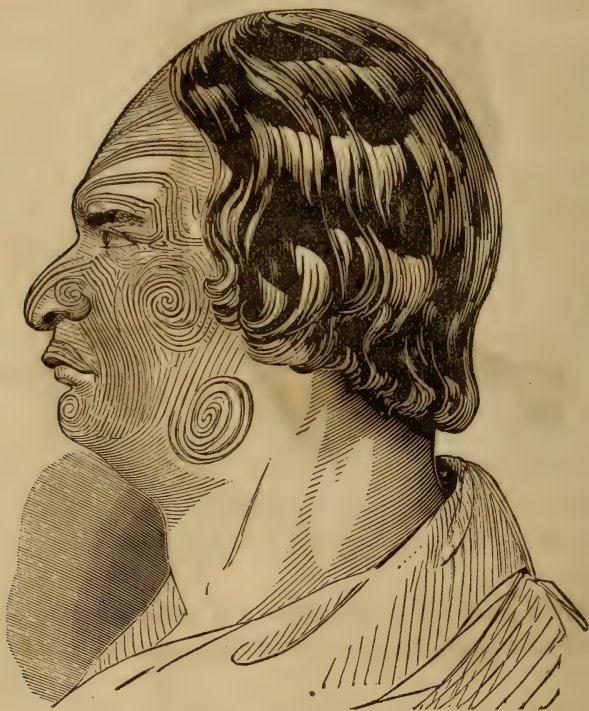
91.—ITS DESCRIPTION, COMBINATIONS, DISCOVERY, ETC.

THE FEEDER; the eating instinct; heartiness; epicurean relish; taste; enjoyment of fine flavors; craving for table luxuries; greed; hunger; natural digestive capacity. Gormandizing and gluttony, result from its perversion and excess.

ITS NATURAL LANGUAGE draws the head downwards towards the relished morsel as in greedy boys, hungry dogs in gnawing bones, cats in eating mice, etc.

IT IS LOCATED in the base of the brain close by the *foramen magnum*, or great opening in the base of the skull, seen in engraving 90, right in front of the ears, but under and internally of them. It is immense in the preceding engraving of Vitellius, the gormandizing Roman Emperor, who ordered *two thousand* different kinds and preparations of fish, and seven thousand of fowl, served up at a single

APPETITE AND DESTRUCTION LARGE.



No. 96.—FEEJEE CHIEF.

feast ; and expended on his table alone at the rate of *one hundred millions* annually ! till his exasperated subjects *tore him in pieces*, lest in another year he should consume on his table the opulence of the whole Roman Empire !

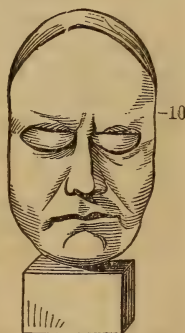
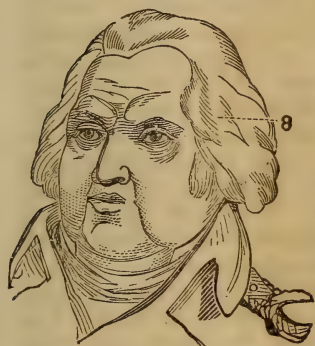
It is immense in Louis XIV., called the banqueting monarch, from his love of feasting. It is also large in all Indians, especially the Gross Ventres, or Great eaters, a cut of a lad of which we subjoin.

Desire to eat must needs be commensurate with the system's *need* of food. This need is as important as is that life it sustains,¹⁵ and accordingly the cravings of unsatisfied appetite are beyond description. We call them hunger, which is caused by the accumulation of gastric juice in the cells of the stomach. They cannot discharge except when food is deposited in it. When the system needs aliment it forewarns the nerves, which telegraph to the stomach, and excite the manufacture of this gastric juice, which seeks that food by which alone this fluid can be discharged. Undischarged gastric juice creates hunger, which, however, differs materially from relish of food. Most have experienced more or less hunger, even in this land of alimentary abundance ; then how much fiercer must its cravings become in protracted fasting

APPETITE VERY LARGE.

APPETITE LARGE.

SMALL.



No. 97.—LOUIS XIV., THE BANQUETER. 98.—A ROOT-EATING INDIAN. 99.—A POOR FEEDER.

from famine, imprisonment, etc. In such cases, fine-grained, good men lose all their higher refined sentiments, and become like famished wolves ; oblivious of the sufferings and rights of others. Eye-witnesses attest that prisoners, too feeble to scramble or even crawl for their scant rations, would *pick beans from the excrement* of fellow-soldiers, which, swallowed unchewed, had been voided whole. Cats, dogs, etc., often evince an almost ravenous appetite, and the fierce voracity of famishing wolves is proverbial. Even men have been known, in the extremity of their hunger, to *put their own teeth* into their *own flesh*, *gnaw their own bones*, and *lap their own blood* ! Think how ravenous they must first become. Yet all this only ad-measures the necessity of food, and the proportionate importance of eating right.

Food, then, including its raising, marketing, cooking, serving, and partaking, constitutes a *staple* institution of society.

"All know how greedy children are. Desirous of seeing how far appetite in them coincided with the size of this organ, I examined the heads of forty-eight, from five to twelve years old, and found it large in every one. It is also large in eleven skulls of children in my collection from two to seven years old, yet not equally large in all.—*Dr. Virmont.*"

"It is located in the *fossa zygomatica*, exactly under Acquisition, and in front of Destruction. I was struck with the remarkable breadth of the face of a friend of mine, and great convexity of the zygomatic arch, caused, not by prominent cheek bones, but more towards the ears. He was exceedingly fond of good living, and in spite of a powerful intellect, and propensities moderate in almost every other respect, was prone to indulge too freely in the joys of the table; and in some other acquaintances, notoriously fond of good eating and drinking, I found this view confirmed.

"Having found this part more compressed in some, and less in others, with corresponding dispositions, and having found no exceptions, I consider it established."—*Dr. Hoppe, of Copenhagen, Den.*

"THE OLFATORY nerve in man is composed of two nervous portions, one deeply hid in the brain, and springing from three distinct roots, two of which run outward towards the fissure of Sylvius, while the other, taking an opposite course, is covered by the optic nerve. These three roots, after advancing forward, join into one, and form the olfactory nerve, which terminates in a slight pulpy swelling of an oval form, from which soft filaments proceed through openings of the ethmoidal bone to the mucous membrane of the nose. The outer one of these roots loses itself in the fibres of those cerebral convolutions which select food; thus showing why smell excites appetite.

"All concur to prove that this is the location of the organ of nutrition. It exists alike in carnivorous and herbivorous animals. The goose, turkey, ostrich, kangaroo, beaver, horse, etc., have this lobe large, as well as the eagle, tiger, lion, dog, etc. It is developed from birth, and proportionally larger in all young than in adults. It is particularly assisted by smell, and the olfactory nerve of all animals is in the most intimate communication with this middle lobe; so much so that in the ox, sheep, horse, dog, fox, hare, rabbit, etc., the internal part of the middle lobe seems to be almost the mere continuation of the olfactory nerve. In man also the external and larger root of the olfactory nerve connects with this lobe; which communicates with the crura; in other words with the intellectual Faculties; and this feeding propensity puts the percepts into action."—*Dr. Spurzheim.*

"Three persons with whom I became acquainted in 1819, led me to think that a portion of the brain situated near the front of the ear next to Destruction, is connected with the pleasures of the festive board. Above a thousand other observations, made before 1823, confirm this conclusion, which was embodied in a paper read to the Phrenological Society of London in 1825."—*Dr. Cook, of London.*

"In lecturing on Phrenology, I had for some years pointed out this part of the brain as the probable seat of this Faculty, and Dr. Hoppe, without being aware of this circumstance, or the reasons on

which this conjecture was founded, arrived at a similar conclusion."—*George Combe*.

"It is nearly parallel to the zygomatic arch, which its large development renders prominent. When it is larger than its neighbors, it pushes the lower part of the temporal muscle forward, making it appear as if lying on a pyramidal instead of a vertical-sided column, the base of the pyramid being downwards. When very large it pushes the sockets of the eye-balls up and forwards, not as in Expression, down and forwards; and when both are large they seem to imprison the eyes by a fulness extending all around them."—*Edinburgh Phrenological Journal*.

THREE MEN, Combe, Hoppe, and Virmont, made and published the same views of this Faculty, without either ever having learned those of the other two. Gall left this part unmarked. My own observations abundantly confirm the existence of this primitive Faculty, and the correct location of its organ. I regard it as fully established.

THIS organ, oftener probably than any other, becomes morbid from inflammation of the stomach, with which it is most intimately related.¹²⁴ The *Edinburgh Phrenological Journal*,* vol. vii., p. 64, records the case of a patient of the Royal Infirmary, who, at 5 A. M., awoke craving food, ate voraciously all day till taken to the asylum about noon, yet still complained that he was dying of hunger, though his stomach was greatly distended from the quantities already eaten; became first delirious, then stupid, and when roused, muttered, "hunger, hunger, hunger; it is hunger," meanwhile complaining of pain in the exact location of this organ only.

A WOMAN named Dennis, in whom it was very large when an infant, exhausted the milk of all her nurses, devoured the bread of all her school mates; would not be satisfied with less than eight and ten pounds per day; experienced weekly excessive cravings which it took twenty-four pounds to satisfy; devoured at once all the soup prepared for twenty guests, along with twelve pounds of bread; and at another time the coffee for seventy-five children!

IN DR. J. S. MORTON'S collection, often examined by the Author, was the skull of a Dutch officer, in whom this organ was very large, and who gave himself to those convivialities and dissipations which destroyed his excellent constitution, and finally his life; and also of Peirce, a convict, transported to Van Diemen's Land, who with others

* No SETS can now be had, but few having been published, one of which the Author succeeded in obtaining, very fortunately for himself and readers, because its possession enables him greatly to enrich his works.

escaped to the woods, became famished, killed and ate one after another of their number, till Peirce alone was left. He thus became so fond of human flesh that he decoyed one after another of his acquaintances into the woods, and *killed and ate* them! Both Appetite and Destruction are very large in this skull.

A CANNIBAL GIRL about ten years old, having this organ very large, was brought to my New York office in 1842, picked up on a city wharf one morning, where she said she had been landed from a row boat that night; was taken to the orphans' home, and thence by two maiden friends; and kept perpetually teasing, begging and clamoring for "man's meat," to get which she wanted to kill an infant she sometimes attended; kept telling how good "man's meat" was; said she used to live on it; that her parents kept a tavern in the woods near the sea shore, where the tide washed away everything; that they would kill travellers who stopped there; save and make puddings of their blood; cook and eat their meat, and even described the kind of butcher knife used by her mother, who was the chief manager, butcher, and cook; that their brains were their best part; that the meat of red-haired persons was the sweetest; that they killed only plump, fleshy persons; and gave many other like details with that child-like, straightforward artless innocence, which proved conclusively that she was telling what she had often seen, and to her only ordinary occurrences, all showing that there were some dreadful deeds enacted near New York, probably on Long Island, about 1830 to 1842. Her "man's meat" craving was incessant and resistless; like that of Peirce.

THE FEEJEE CHIEF, whose bust I took in 1842, engraving No 96, then on exhibition in "Barnum's Museum," had this organ and Destruction larger than I have ever seen them elsewhere, declared human flesh to be far more palatable than any other, and said he had often feasted on it. He said he saw two of his comrades disputing, one that a young woman was with child, the other that she was not; call her to them; *cut her open* as she stood, to prove this point *by sight*; while she crawled into the bushes, dragging along her dangling entrails; and soon became fly-blown; then *full of maggots*; till she finally mortified; and at length died!

ANCIENT SACRIFICES TO JUPITER probably originated quite as much in this love of "man's meat" as in Devotion, yet in both conjoined with Destruction; the latter enjoying the killing, and Appetite the feasting on their flesh, and both in the name of piety.

AN OLD AFRICAN was executed in New Orleans for binding, fattening, and killing an eighteen-year-old negress, and *serving her up* at an animal religious feast, to which he had been accustomed in Africa, before he was brought to America ; thus showing that his appetite for human flesh still remained. There would thus seem to be something about it peculiarly fascinating.

LARGE.—Have a hearty relish for food ; set much by table luxuries ; enjoy good living exceedingly ; eat with real zest and luxury ; digest well except when the stomach has been broken down ; are liable to clog mind and body by overeating ; need to guard against its excess ; will feel the better by occasionally going without a meal, and are liable to induce dyspepsia by overloading the stomach ; can eat anything with impunity, and digest it perfectly ; live on little, or eat much, and need not be very particular as to diet ; both relish and dispose of food to perfection ; have good blood and plenty of it ; prefer the substantials to knicknacks ; hate a scanty meal ; and have plenty of energy and good flesh.

LARGE IN COMBINATION with large Acquisition, lay up abundantly of all edibles in their season, provide a plentiful store of “the good things,” and save the odds and ends left at one meal for future use ; but with Acquisition moderate, eat freely to-day without duly providing for to-morrow’s table wants, wasting food left over, and living beyond means ; with Friendship full, cannot enjoy eating alone, and are very hospitable, besides giving friends the very “best the house affords ;” with a full social lobe, enjoy eating in the bosom of the family and at home much better than at a hotel ; with full Parental Love, feed children, pets, stock, etc., liberally, and love to see them eat ; with full Construction, are good cooks, and with full Acquisition, often have picked up dinners made “as good as new,” and provide a bountiful table as economically as possible ; with Kindness large, give food freely to the hungry ; with Ambition and Beauty large, are ceremoniously polite at table, and must have everything clean and nice ; with Friendship moderate, are more ostentatious than hospitable at table ; and with Force full or large, become very angry when food is poor, etc.

FULL.—Eat freely what is proffered, “asking no questions,” and finding little fault ; enjoy food well, but not extravagantly ; and usually have good digestion. Its combinations are analogous to those under large.

AVERAGE.—Enjoy food passably well, and eat with a fair relish,

yet nothing more, and rarely ever over-eat; and must not abuse the digestive organs, lest they break down, because their natural vigor is only average.

IN ITS COMBINATIONS it is affected more by the other Faculties than they are by it. Thus, with full or large Friendship it may relish food well when eaten around the social board, yet would eat sparingly with strangers, alone, etc.

MODERATE.—Rather lack appetite, and eat with “long teeth,” or a moderate relish; feel little hunger, and eat to live, instead of living to eat; cannot relish eating unless all its conditions are favorable; are constitutionally liable to indigestion, and naturally dainty, fussy, particular and whimsy at table; have a weak digestive apparatus, and variable appetite, very good, or else very poor; are a good deal pre-inclined to dyspepsia; often feel a goneness and sinking at the stomach, and a general lassitude and inertia; sleep poorly, and feel tired and qualmish in the morning; have either a longing, hankering, pining, hungry feeling, or a loathing, dainty, dormant appetite; are displeased and dissatisfied with everything; irritable and peevish, dispirited, discouraged, gloomy, and miserable; feel as if forsaken and neglected; are easily agitated, and oppressed with an indefinable sense of dread, as if some impending calamity awaited; and should make the improvement of digestion the first business of life.

WITH FULL Friendship, may eat fairly well with friends, but poorly without; with moderate Eventuality, can hardly remember afterwards what has just been eaten; with Beauty and Order full or large, cannot eat much unless everything about the table is very nice and tidy, and just so throughout, etc.

SMALL.—Are almost wholly destitute of appetite; eat with daintiness and too little to properly nourish the body; hardly know or care what is eaten, or when or whether you eat or “let it alone;” and should pay much more attention to properly nourishing the system.

ITS COMBINATIONS resemble those of this Faculty moderate.

APPETITE IS SUBDIVIDED into quantity and quality; greed and flavor; hunger and relish; the former located nearest to the ears, and securing *something* to eat, while the latter selects the best attainable. The first, which might properly be called Greed, is the most important, and therefore universal. All possess the second, which might be called Flavor, yet it increases in proportion as its possessors advance. Coarse-grained persons eat almost anything, intent chiefly

on getting *enough*; while those of refinement become proportionally fastidious in their choice, and *being* particular promotes refinement. At all events there are obviously two distinct classes of analogous functions, which are of course executed by two separate Faculties, and their contiguous cerebral organs.

92.—THE NATURAL FOOD OF EACH SPECIES FEEDS ITS OWN SPECIALTIES.

WHY should or does one kind of animal relish one kind of food, and another another, but because the natural food of each sustains and develops its own specialties? The *end* of all eating is the nutrition of the eater's peculiarities. *Fitness* appertains to all Nature does and requires. Lions love raw flesh, and horses grain, because raw flesh is precisely adapted to sustain and develop the peculiarities of the former, and grain of the latter. One animal relishes that peculiar kind it needs, while another loathes this same food, but enjoys what the other loathes. Thus the lion craves raw meat, warm with life, but loathes vegetable food; while the horse loathes flesh, but craves vegetables. Could grass nourish the physiology and mentality of the hyena, eagle, and whale, or flesh those of the sheep and ox, equally as well as the converse now does? Is not meat adapted to sustain the functions of carnivorous animals, herbage that of herbivorous, nuts of the rodentia, insects and seeds of birds, and so of all that eats? Else why their respective *appetites* for their natural diets? What stronger proof could be required or had that the natural food of all animals is constitutionally calculated to nourish their respective characteristics, mental and physical, than that furnished by this law of adaptation? To argue a principle thus self-evident, the truth of which is guaranteed by Nature's universal economy, is like arguing an axiom. It is obviously a dietetic law and guide.

THIS PRINCIPLE is still further proved by the fact that the food of all animals bears a close resemblance to their natures. Thus, sprightly animals generally live on a sprightly diet; as the cat on mice, the tiger and lion on the antelope, etc. Tall animals, as the giraffe, live on what grows high, and moles on what grows close to or in the ground. Fish live mostly on what swims, and the swallow on flying insects; whereas birds which fly less live more on worms and seeds; and domestic fowls, which fly little, live mainly on what flies but little. The natural diet of swine is chiefly roots—a coarse animal feeding on coarse food. Strong animals, as the mastodon, moose, ele-

phant, elk, etc., live much on the ends of soft limbs, about the firmest food eaten; while horses and cattle relish hay, which is fibrous and tough, as its consumers are hardy and muscular. Strong and fleet sharks feed on other fish next in speed and strength to themselves. Monkeys, confessedly the highest order of animals except man, feed on fruit and nuts, obviously the best of food, except grains and the first class of fruits, reserved for man. The nutrition of nuts, too, is highly concentrated.

ANIMALS confessedly higher in the scale of capacity and enjoyment than vegetables, accordingly feed on what has already been organized; whereas vegetables, being lower in structure and function, can sustain themselves by a far lower order of nourishment—that drawn from the earth, organized too low to support animal life. And, in general, the higher the grade of any animal, the higher the order of its food. Even the vegetable kingdom observes this law of correspondence with nutrition. Thus the grape, an exceedingly juicy fruit, seeks a humid atmosphere, and so do pears and plums; whereas apples, less juicy, thrive best on dry soils. Though apparent exceptions may perhaps be cited, yet the general law is perfectly obvious, that there is something in the natural diet of all that eats and grows peculiarly adapted to sustain both their physical and mental characteristics.

93.—NORMAL APPETITE AND SMELL THE ULTIMATE ARBITERS OF WHATEVER APPERTAINS TO ALIMENT.

“But all this leaves us about as much in the dark respecting our food as it found us. Though it sheds some dietetic light, yet it is often self-contradictory, and befogs about as much as it enlightens. Does not Nature provide some *infallible* guide to right eating, which tells us not only what is *generally* best, but always *just* what is required at any and all times? Our systems need one thing to-day, another to-morrow, and still other kinds at other times; then does Nature provide a sure *feeding formula* adapted and applicable to all cases?”

NORMAL APPETITE furnishes this formula. Would Nature, after having predetermined every minute particular, throughout all her vast domains, leave a matter *thus* important at loose ends? Surely not. If appetite simply created an indiscriminate greed for any and all kinds of food, it would often lumber up the system with gross materials, the digestion and expulsion of which would exhaust its energies. Instead, each individual requires to eat just what, and *only* what, but no more than, is then and there required for special and im-

mediate use. This same alimentary instinct which preinclines us to eat, must also *select* just *the* kind, quality, and amount of food thus needed, and eschew all else.

A SPECIAL HANKERING and *relish* in each species, and in all individuals of each, for just that aliment demanded by each at that particular time, accomplishes all this. This feeding institute, without this provision, would be most imperfect; but with it, like all else in Nature, becomes perfection personified. Hence appetite is a *specific* as well as general dietetic guide. It not only creates in carnivorous animals a relish for flesh, in graminivora for grains, etc.; but if, at any particular time, any one individual of any species, man included, needs any *special* aliment, each will experience a *craving* for the kind of food which contains the ingredients required. This is equally true of liquids—is a law of all alimentation. Whatever eats needs it, and Nature thus furnishes to each an *infallible* directory, which rightly applied, will select the best kinds of food in *detail*, as well as in general, and tell us all just *what* to eat, when, how much, how, and everything appertaining to a perfect diet.

INSTINCTS are as destinies. Every animal, every human instinct, subserves some necessary purpose; and every necessary end is carried forward by some instinct.³⁴ Appetite is expressly adapted to execute whatever is necessary to perfect nutrition. In short:

SCIENCE governs alimentation equally with every thing else in Nature. There is as veritable, as infallible a natural science of right eating as of mathematics; because both are equally governed throughout by *first principles*. Normal appetite expounds these fundamental laws of right eating, and instinctively applies them to the best possible feeding of the body. This alimentary science of eating has its summary in this laconic edict:

EAT WHAT RELISHES. That is best which TASTES best.

Then why is not this science of right eating *taught*, along with the other sciences? Is it less important than they? or less promotive of life than grammar, than school studies? Yet what physiologist or teacher teaches, what preacher preaches, this science as such?

SMELL constitutes another reliable umpire in selecting our food. All animals smell of their food before they venture to taste it, and predetermine its utility as food by its smell. The universal contiguity of the mouth and nose, and their nerves, signifies that they should work in concert. Smell detects incipient decomposition even sooner and more effectually than either sight, touch, or taste. If smelling of food is not polite, it is at least natural to man and beast.⁹¹

THIS EXPERIMENT will show how important a dietetic part smell plays. Let one accustomed to drink liquors, or taste of fruits, or anything else, close eyes and nose, and taste of this and that without seeing or smelling of them, and he can scarcely tell whether he is tasting of brandy, whiskey, or rum, or of this, that, or the other kind of fruit.

Smell should obviously be brought into perpetual requisition in selecting our food, and also be assiduously *cultivated*.⁹¹

94.—THE DISCIPLINE, OR CULTURE AND RESTRAINT, OF APPETITE.

CULTURE improves all to which it is rightly applied. It increases the size and lusciousness of wild fruits; makes wild animals tame; augments the products of fields; beautifies flowers; redoubles the size and efficiency of the muscles, and all other physical organs;⁶² and improves each of the mental Faculties,⁶⁴ Appetite of course included. Men properly expend much time and pains in cultivating memory, language, reason, taste as applied to beauty, etc., but little ever in cultivating taste as applied to food; excepting those who make a *business* of tasting teas, liquors, and other articles of diet in order to their purchase. Is Appetite less important than these other Faculties? Does not its right exercise, by feeding the body in the best manner, redouble the vigor and efficiency of all the other functions of body and mind? One can live twice as long, fast, and well, with as without a discriminating Appetite. Its right exercise promotes, while its wrong impairs, every life function, as it were by magic; but indiscriminate eaters can hardly half live, enjoy, or accomplish. Its culture thus becomes a sacred duty, as well as real life-luxury; for we can thereby live the longer, work the harder, and be the happier and better. Table luxuries are as legitimate as any other. Food was created palatable to be enjoyed, not neglected. Eating was made a great luxury for the wise purpose of nourishing the body. All should enjoy each successive meal,¹⁷ and feed themselves in the very best manner possible.

TO CULTIVATE.—Consider before you provide or order your meals what would relish best, and as far as possible provide what you think will taste good; pamper Appetite; eat leisurely, and as if determined to extract from your food all the rich flavors it may contain, and in eating be governed more by flavor than quantity; endeavor to coax an appetite, even when you feel none, by eating some dainty, as if to see if it were not good; do by food and drinks as wine connoisseurs do in tasting viands; taste things with a view of ascertaining their relative flavors; in short, exercise and indulge Appetite; eat *discriminatingly*;

that is, "*smack your lips*" over this, that, the other kind of food, to see which has the genuine flavor *ring* ; and partake only of those kinds for which you have a keen relish ; and eat what you eat, not as the gormand eats pork and beans, but just as the epicure eats woodcock, as if bound to obtain from it whatever gustatory relish it possesses. Most persons eat as the hen eats beans, with a grab and swallow, without once stopping to enjoy its flavor. Many eat like coarse-grained swine under a pear-tree, from one limb of which have fallen delicious Seckles, and from another hard, sour-pucker pears, cramming both equally, noting little difference in their flavor, though one Seckle pair contains more genuine lusciousness of flavor than a whole bushel of choke pears. Deposit in your stomach only what " goes just to the right spot." Horses are very particular as to what they eat ; then why should not man be far more so ? All we eat must permeate our entire system, and exert its legitimate effects upon every fibre of the body, every emotion and action of the mind ; so be careful what you eat.

FEW FACULTIES are as generally perverted as this ; and only one, Love, stands in greater need of right direction. The Bible tells us that the sin of our first parents consisted in wrong eating. Both physiology and fact attest that perverted appetite, or the enormous gormandizing of rich and stimulating kinds of food, in connection with alcoholic and other noxious drinks, causes a great proportion of the depravity of mankind. Paul meant something when he commanded, " Be ye temperate in all things ; " nor does the Bible condemn gluttony and wine-bibbing, from first to last, for naught. Indeed, its narrative of the eating of the forbidden fruit as introducing into our world " death and all our woes," obviously means that perverted Appetite, or wrong eating, caused the fall of man, and most of his subsequent depravity and consequent suffering. This is certain, that the starting point of human reformation and restoration is the stomach. Its influence in inflaming the system, and the irritated state of the body as inflaming and perverting the animal propensities, has already been so effectually demonstrated as completely to establish this point.²³ The due regulation of Appetite, then, is the great instrumentality of all self-improvement. To become good or great, men must first learn how to EAT.

GOOD TASTING ORGANS are of course indispensable to right eating. None can feed themselves properly without keeping the *nerves* of the tongue and mouth in a sensitive, susceptible, exquisite, tasting *state*. None who chew, smoke, or dip, can possibly feed themselves disci-

minatingly, or keep their functions in the best working order. Keeping these tender mouth-nerves soaking in this pungent narcotic must *needs* blunt them, and thus impair the taste, and thereby the alimention; and of course every function of mind and body. Tobacco chewers, smokers, and dippers chew, smoke, and dip *that*, and then *stop* chewing, smoking, and dipping; and you will experience a "revival" throughout all your functions.

RESTRAINING Appetite is necessary much oftener than its culture, because it is more excessive than deficient; and because it is usually more or less inflamed in consequence of stomachic inflammation. Appetite and the stomach are in the most intimate mutual rapport; else how could the former crave and loathe food according as the stomach needs or does not need it? We have already shown why and how this is, namely, because the pneumogastric or eighth pair of nerves ramifies from this organ upon the stomach.³⁷ Of course the inflammation of either must of necessity inflame the other likewise. Both were made for each other, and together conjointly subserve one end—the perfect feeding of the body, which demands this mutual sympathy, and that it should be, as it certainly is, perfect.

ALL INFLAMMATION of the stomach, therefore, inflames Appetite, which creates a morbid craving for food, akin to Appetite, yet to hunger what fever is to health. Excess of food inflames the stomach, and this creates these morbid hankerings, which most mistake for hunger, yet they are caused by a *surfeit*. This renders their Appetite morbid, and its cravings insatiable. And the more such eat, the more they crave. Let them eat and eat by the hour together, they still feel what they call hungry, though it is an insatiable morbid voracity. True, they feel weak, gone, faint, ravenous, and that they shall drop down, unless they can get something to eat soon; yet the more they eat the more they crave, because the more they inflame both their stomachs and, of course, Appetite. Cannot they see that they eat twice as much as others, and four times more than many around them who enjoy uninterrupted health? How can they require so much, when others do so much better with so little? What could more conclusively prove that both their craving and diseases proceed from gluttony? Protracted abstemiousness will surprisingly diminish these stomachic gnawings, as a trial will show. And, in general, those who feel faint in the morning till they eat, ravenous before dinner, and hungry before supper, should attribute these cravings to an *overloaded* stomach instead of to an empty one. Those who suffer

much from omitting a meal may rest assured that they over-eat. Fasting gives little inconvenience to healthy stomachs. There is no surer sign of a surfeit than these hankerings and this faintness, when a meal is omitted. Contradictory though it may seem, yet of all such cravings persevering abstemiousness is a perfect cure ; because it always that irritation of the stomach which causes them, and which full feeding enhances, and thereby rekindles Appetite. Let those thus afflicted only *fast* instead of feast, and keep fasting till they, like those in health, can omit a meal with little inconvenience.

MANY readers, conscious of excess, would give something to know how they can govern this incessant craving. Every little while they suffer from excess ; firmly resolve to eat less, and succeed at a single meal, only to eat the more afterwards. Indeed, few things are more difficult than governing a morbid Appetite, whether for alcoholic liquors, or unhealthy viands, or excessive quantities of food. He who can do this, can march to the stake. To rule a kingdom is play compared with controlling a morbid appetite. Yet this is not difficult to those who know *how*. Many try hard enough, but do not try *right*. Follow these directions, and this task will soon become easy.

1. TAKE upon your plate, in one or two parcels, all the food except the dessert, you think best to eat at a meal, and leave off when that is finished, instead of "backing up" for another load. By this means alone can you fully realize how much you do eat. When this is impracticable, notice how much you have previously taken, so as to bear in mind the sum total consumed. But if you take potato after potato, and slice after slice of meat, and bread, and the like, relying upon an already inflamed Appetite for your guide as to quantity, or till your stomach, stretched by a thousand surfeits, is pained by fulness, be assured you will over-eat. Weighing a few meals, till you have learned to estimate correctly by the eye, will aid you in curtailing Appetite.

THE SCOTCH CUSTOM of placing before each child all it is to have at that meal, every mother should apply to her children, and all adults to themselves. Never make them eat food to save it.

2. TAKE SMALL MOUTHFULS. Those who pile in great mouthfuls, chew only till they can barely swallow, and then hurry in as much more as their mouths will hold, eat far more in a short time than they suppose ; whereas taking a small quantity at a time, and chewing it well, makes a little go a great way, both in satisfying Appetite, and in nourishing the body ; meanwhile strengthening instead of impairing digestion. See children take a small bite, and laugh, play, and talk,

perhaps even while chewing it, and then take a little more, and thus spin out their eating a long time. Do likewise, and you will find it easier to stop eating a small meal than now a large one. The stomach of those who eat fast, and in large mouthfuls, hardly realizes how much food it has taken until it is almost crushed under its burden. Following these simple directions of parcelling out your meal at the commencement, then eating in small mouthfuls at a time, and masticating thoroughly, will render the government of Appetite easy, while restraining a craving appetite with fast eating is next to impossible.

3. EAT SELDOM. But this calls up for canvass frequency,—

95.—HOW OFTEN SHOULD WE EAT?—LUNCHEONS, ETC.

LET NATURE, not habit, answer. Her division of time into twenty-four hours plainly indicates that we should eat, sleep, exercise, study, etc., only once per diem. If she required additional frequency, she would have divided time accordingly. By eating every two hours, we should soon become habitually hungry that often. We consume more food in winter than summer, yet live comfortably on two meals. Habit makes us desire two, three, or six meals and luncheons. A tribe of trapper Indians eats once daily, and that after hunting from daylight to dark. Col. Taliferro, Senator in Congress from North Carolina for many years, a remarkably hale man, at about seventy had eaten but one meal per day for forty odd years, and could never be persuaded to taste food twice the same day, though he cared less what part of the day he ate; and the Author greatly improved his own digestion by eating but once daily for fifteen years, though he now eats twice, and thinks this the best, since we are brought up to it.

THE ENGLISH, from habit, think they must eat six times, while the Thracians thanked their gods publicly that Cyrus and his army ate but once, exclusive of a morning luncheon. Let all objecting laborers think how utterly puerile are their labors compared with the herculean exertions of ancient soldiers, whether marching or building, besieging or fighting. Since they endured so much on one meal, cannot you so little on two? Your stomachs, like your muscles, must have about eight hours' rest diurnally. To digest and discharge each meal requires about six hours; so that two meals and resting would nearly fill in all the time, and allow a little extra to finish off digesting each meal.

"But why not eat less and oftener?"

BECAUSE we are much less liable to over-eat at two meals than at three ; the food sours less ; can be digested easier and more completely, and the digestive organs have ample time to rest.

INVALIDS should eat seldom and little, because their debility or disease prevents their consuming much food. A light diet is one of the best of cures, because most diseases come from over-eating. Why take more food than can be digested, only to clog and irritate? Still, a sudden change from three meals and a lunch to two, is not advisable. Better begin with a light supper, then postpone dinner, and after a year or two, omit supper.

LUNCHEONS are objectionable. Since two meals are sufficient, a lunch between three must be injurious. The stomach, on receiving its allowance, empties into itself a copious discharge of that gastric juice which dissolves the food, and does not secrete another supply till all that meal is disposed of, and another demanded. Hence, what we eat between meal times must lie in the stomach undigested, only to irritate and disease. Besides, to interfere with this process by introducing a fresh mass into one partly dissolved arrests its action, and causes that first received to lie until incipient fermentation takes place. Nuts, cakes, candies, oranges, fruits, etc., should be eaten *with* meals, not between them ; and giving "pieces" to children will derange their stomachs, and breed worms. Dainties, ice-creams, etc., should be eaten at meal times only.

THE BEST TIMES for eating are probably eight or nine A. M. and three or four P. M. An early breakfast or dram is said to prevent fever and ague, etc. Let temperance men answer the dram part, and their answer will apply to the early breakfast. My own experience favors a late breakfast.

LATE SUPPERS are injurious, except in cases of genuine hunger. Those whose business precludes their eating till just before they must retire, had better eat then than go to bed hungry ; for the stomach can work while asleep—indeed, works the best then ; but those who can eat when they prefer, should eat at least three hours before retiring. An overloaded or inflamed stomach interferes with "Nature's great restorer," and often engenders bad dreams, which sometimes culminate in nightmare. Especially eschew apples, nuts, cakes, etc., at night. Eat no supper, or if any, three or more hours before retiring, and you will feel far better the next day, because your night's sleep will be the sweeter and sounder.

IF THREE meals are eaten, about seven, one, and six are their best

hours; yet those literary and business men who can get along with from eight to ten hours' work, should do up their eating before they begin, and after they have finished, but not disturb their stomachs by either dinner or luncheons during their working hours. Even laborers, if once accustomed to it, could work more, and easier, without than with stopping for dinner; that is, by doing their whole day's work at one time. So can horses. In Texas they never stop to feed at noon.

SECTION II.

IS MAN NATURALLY GRAMINIVOROUS, OR OMNIVOROUS?

96.—HUMAN TEETH NOT CARNIVOROUS.

WHAT FOOD IS BEST for human development, physical and mental, becomes a problem as practically important to every man, woman, and child, as is life itself,¹⁵ which depends much on what we eat.⁹⁰

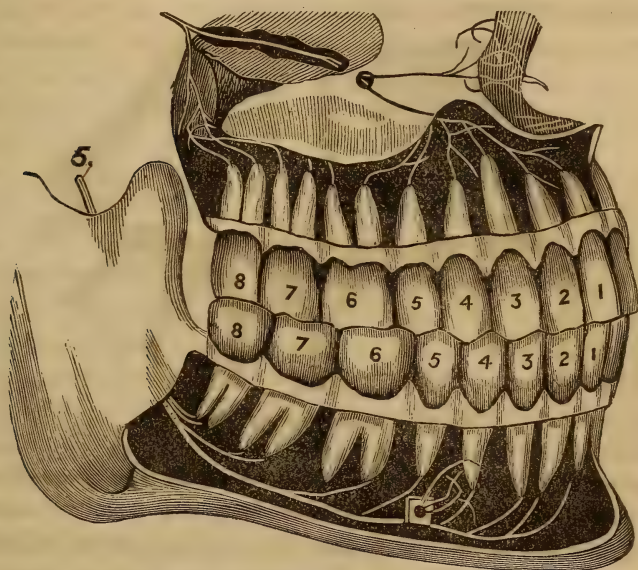
NORMAL APPETITE will settle this issue correctly, yet it is so universally perverted, by both hereditary entailments and wrong habits from the cradle, that it needs to be aided by philosophy. Indeed, all our propensities require the guidance of reason, man's highest tribunal.²⁰⁰ What, then, is its dietetic verdict?

The first point to be decided is, whether man is *naturally* adapted to eat vegetables alone, of course including grains, nuts, fruits, gums, vegetable oils, sweets, and all farinaceous edibles; or whether a mixed diet, including flesh, fowl, fish, etc., is best? And if so, mixed in what *proportions*? That is, what are the respective effects, on mind and body, of a diet wholly vegetable, as compared with mixed?

THE TEETH of all animals are adapted in structure to their natural food. As the construction of fish adapts them to swim, of birds to fly, of animals to walk, etc., and as every *part* of each is expressly adapted to its specific phase of function,—as all of Nature's structures specifically adapt them to the ends she thereby effects,⁵³—of course the teeth of all flesh-eating animals expressly adapt them to seize, hold, and tear their prey; while those of all grass and grain-feeding animals fit them to bite off and crush grasses and grains. The former should be, and are, sharp, the latter flat. The eye-teeth of the former are by far their largest, besides projecting much farther than the others, and being very sharp, so as to grasp and hold their prey. Touching this adaptation of teeth to the natural food of all animals, President Hitchcock, the highest geological authority, observes:

"From a single bone or tooth of any animal, its character, food, habits, haunts, and all the circumstances of its existence may be correctly inferred. Comparative anatomists have, from a single tooth, described, and made drawings of the extinct creature to which it belonged, which have been found to agree exactly with skeletons afterwards discovered."

VIEW OF THE HUMAN TEETH.



No. 100.—NAMES OF THE HUMAN TEETH.

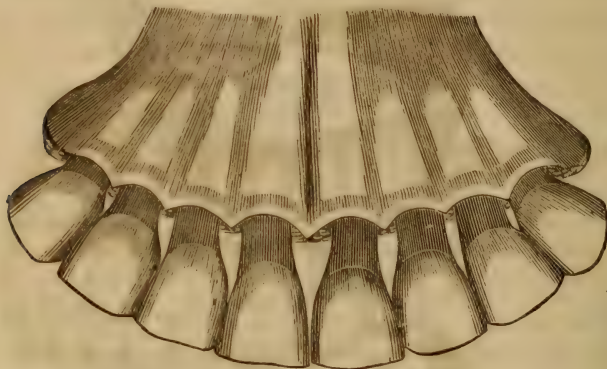
- | | |
|-------------------------|-----------------------------------|
| 1, 1. Middle incisors. | 4, 4. First bicuspidate. |
| 2, 2. Lateral incisors. | 5, 5. Second bicuspidate. |
| 3, 3. Canine. | 6, 6, 7, 7. Molars. 8, 8. Wisdom. |

THE TEETH of every animal, known and unknown, accord perfectly with its natural food. This is universally admitted; so that the form of the human teeth will determine, with absolute certainty, the natural dietetic character of man. If he is constituted to eat meat, the shape of his teeth will approximate towards that of lions and tigers. His front teeth will be small and sharp; his eye-teeth, which correspond with the tusks, hooked, long, and enormously large; and his back teeth sharp for tearing, instead of broad for crushing; whereas, if his natural diet is vegetable and farinaceous, his back teeth will be adapted to grinding, and his eye-teeth not longer than their neighbors.

TEETH ARE COMPOSED of bone, cased with the hardest substance in the human body, called ENAMEL, to prevent their breaking. They are kept in their places by prongs and muscles, and rendered sensitive

by nerves, shown in engraving No. 100, fig. 5, which pass into them by fissures or holes in the centres of their prongs. The inflammation of these nerves occasions the toothache.

The following engraving of the cow furnishes a standard sample of herbivorous teeth, as do those of the tiger, engraving No. 29, of the teeth of the carnivora.



No. 101.—UNDER JAW OF THE COW.

SEE FOR YOURSELF towards which of these two forms the teeth of man approximate—that his front teeth are usually larger than his eye; and his double teeth flat for grinding, instead of sharp for tearing. Not one index of the carnivorous form is found in his teeth. Now this principle constitutes a final umpire, from which there is no philosophical appeal. The absence of claws has a kindred bearing.

THE MONKEY TRIBES, contrasted with those of man, render this assurance doubly sure. Though they will eat flesh rather than starve, yet it is not their natural diet, else they would kill and eat animals. Now the form of their teeth, as seen in engravings Nos. 13 and 16, approximates towards that of the carnivora much more nearly than that of man does, the engravings of the monkey, baboon, and ourang-outang, Nos. 13, 16, and 18, fully evince.

“But man has hands and tools with which to kill, and sense to supply by knives and cookery his want of claws and teeth.”

THIS OBJECTION leaves the teeth argument wholly untouched. It simply excuses the admitted omission of carnivorous teeth and claws. As far as it has any anti-meat eating force, it makes against the obvious and conceded *principle* that the forms of the teeth of ani-

mals indicate their natural kinds of food—a principle too firmly established to be shaken by this may-be assertion.

SINCE THE FORM of the human teeth recedes from that of the carnivora far more even than that of monkeys, which are confessedly not carnivorous; therefore human teeth were not made to eat meat. What proof can more conclusively attest anything, than this establishes the natural diet of man to be herbivorous? Nearly every sound physiologist has been impelled to this conclusion by this dental, and other kindred arguments. The immortal Linnæus sums them up thus:—

“Fruits and esculent vegetables constitute the most suitable food for man.”

“The natural food of man, therefore, judging from his structure, appears to consist of fruits, roots, and other succulent parts of vegetables; and his hands offer him every facility for gathering them. His short and moderately strong jaws on the one hand, and his cuspidati being equal in length to the remaining teeth, and his tubercular molars on the other, would allow him neither to feed on grass nor devour flesh, were these aliments not prepared by cooking.”—*Cuvier*.

“The teeth of man have not the slightest resemblance to those of carnivorous animals, except that their enamel is confined to their external surface. He possesses, indeed, teeth called canine, but they do not exceed the level of the others, and are obviously unsuited for the purposes which the corresponding teeth execute in carnivorous animals.” “Whether, therefore, we consider the teeth and jaws, or the immediate instruments of digestion, the human structure closely resembles that of the simiæ or monkeys, all of which, in their natural state, are completely frugivorous.”—*Lawrence*.

“Every fact connected with human organization goes to prove that man was originally formed a frugivorous animal.”—*Dr. Thomas Bell*, “*Physiological Observations on the natural Food of Man, deduced from the Character of his Teeth*.”

CULLEN AND LAMB take similar ground, and the Abbé Galani ascribes all crimes to animal destruction. Pope protests against “kitchens sprinkled with blood,” and insists that animal food engenders crime. Plutarch tells us that Pythagoras ate no pork, and wondered what first “led man to eat carcass.”

THESE CONCLUSIONS, however unpopular, have been extorted from every rigid physiologist who has ever examined this subject, and are confirmed by the length of the alimentary canal, which is short in the carnivora, long in the herbivora, and intermediate in man—about six or seven times the length of his body. These two arguments, derived from the structure of the teeth and of the ali-

mentary canal, of themselves prove that the dietetic character of man is mainly vegetable.

97.—A MIXED DIET CAN FEED THE GREATEST NUMBER.

WHATEVER DIET will sustain the greatest number of human beings is therefore the best. That our earth is destined to be crowded with as dense a population as its utmost capacities for sustaining human life, combined with the most rigid husbandry of its necessities, will support, is undoubtedly the economy of Nature. Hence, since a given amount of land can be made to sustain more human beings, by about ten to one, if its products are consumed directly by man than when fed to animals, and they eaten as food; the economy of Nature could never have ordained this *thousand per cent. loss* in order to sustain flesh-eaters; unless one of them enjoys as much as ten vegetable-eaters. If Nature really requires and favors a flesh diet, she would have arranged to support a far greater number of flesh-eaters than vegetable-eaters; whereas, since she can sustain ten times as many exclusively vegetable-eaters as exclusively flesh-eaters, therefore a mainly flesh diet is in opposition to Nature's general economy.

A GIVEN TERRITORY will sustain probably a thousand Anglo-Americans by agriculture, to one Indian by the chase. Suppose the earth already fully stocked with human beings, shall this one Indian be allowed to engross what would support a thousand human beings better than he is sustained? If he is content with his thousandth part of territory, let him remain; but he has no right to prevent the existence of nine hundred and ninety-nine human beings, still better capacitated to enjoy life than himself. Hence Nature compels him to recede before the march of civilization, unless he incorporates himself with it. And this sentence is just.

CARNIVOROUS ANIMALS furnish another illustration. To support one lion requires thousands of acres. Hence, since Nature abhors prodigality as much as vacuums, she ordains that lions and all beasts of prey shall retire at the approach of man; that is, yield their dominion to him as fast as he requires it, because he puts it to so much better use than they. The principle here stated is a law of things. Shall, then, one flesh-eater be allowed to keep ten vegetable-eaters from enjoying all the luxuries of life? Human happiness is Nature's paramount object.¹⁵ To this, numbers are indispensable. Since, therefore, ten vegetable-eaters can enjoy more than one flesh-eater,

they should take precedence; hence flesh-eating must decrease as population increases. In fact, since one of the former enjoys much more than one of the latter, this waste of the necessities of life by flesh-eating, and this deterioration of human enjoyments, clash fundamentally with human numbers and happiness; which condemns a mainly flesh diet as contrary to the nature of man.

A MIXED DIET, however, will sustain more than one composed exclusively of either flesh or vegetables. One almost all vegetable, with a little animal, the latter including the products of the dairy, poultry and eggs, will sustain the most, and is therefore the best. A few, yet not many, domestic animals and fowls can be kept on offal food, unfit for man, and their manure made to increase the productiveness of land more than they diminish its products, so that they augment the *aggregate* supply of human food. Grasses and vegetables also grow on salt and other untillable marshes, on which a few cattle can be kept, and their flesh, butter, and cheese be made to increase human sustenance. This argument favors eating some meat, but not much.

FISH, which by culture can be obtained in great quantities from both salt water and fresh, can be made to add materially to human food; besides containing that phosphoric element which promotes cerebral action, and sustains the mental manifestations. Fish raising should by all means be encouraged publicly and privately; and all dams be so constructed as to allow them to ascend rivers for breeding.

98.—FRUITS AND GRAINS MORE PALATABLE THAN MEAT.

MAN RELISHES fruits and farinaceous food, interspersed with vegetables, nuts, eggs, and the products of the dairy more than meats. The unbolted flour of wheat, rye, oats, barley, corn, buckwheat, etc., made into bread and puddings in various forms, and seasoned with fruits and sweets, should constitute the main bulk of his diet because they taste the best;⁹³ and to it should be added potatoes, beans, peas, beets, carrots, turnips, parsnips, nuts, and a limited supply of milk, cream, butter, cheese, and some meat. The warrant for this dietetic system is, first, its far greater *palatableness* than flesh.⁹² That it is relished better, is proved by our always reserving the best part of meals for dessert—though we ought to eat the best first—which consists of fruits, pies, puddings, cakes, oranges, nuts, raisins, apples, peaches, pine-apples, berries, and the like, but rarely of meat—never

except in minced pies, from five-sixths to nine-tenths of which are composed of flour, apples, sugar, cider, and spices. Flesh is almost excluded from our list of desserts, because less palatable than flour and fruit. We paraphrase good living by "roast beef and plum pudding." Why place the plum pudding last? Because it is best, and therefore brought on *after* the roast beef; yet it is composed of flour and fruit sweetened. Similar remarks apply to all other kinds of puddings. At extra good dinners, almonds and raisins are brought on last, because the best of all. How much better fruit and flour desserts relish than meats and gravies, even after the appetite is glutted with the latter? But meats brought on last would scarcely be touched. We all know how much keener Appetite is at the beginning of meals than at their close; and yet though sated we like the flour and fruit preparations eaten last, much better than meat dishes first. Hence, as that tastes best which is best,⁹³ fruits and flour constitute the natural diet of man.

BREAD, MILK, AND BERRIES, and also meat, set before children, • telling them to make their meal wholly of the one they like the best, yet to eat *but* one, all will prefer the former. This is true of most adults. Many readers can testify that suppers composed of milk, bread, and fruit relish better than any other meal. Peel, cut, and sweeten peaches, and tell children they can eat them with bread and butter, or that they can have meat and butter with bread, but if they choose the meat, must not have the peaches, and not one in hundreds will prefer the meat. Not one in millions prefer all meat to all vegetables and fruit.⁹³ So of dried peaches or apples, stewed with raisins, and sweetened. Many kinds of pears are still better. Give adults the same choice, and in spite of their perversion of Appetite consequent on eating so much meat, most prefer the bread and fruit. Or set apple-dumplings and good sauce upon the table with meat, it being understood that all can have their choice, but must partake of only one dish, and most will relish the fruit and flour preparations better than the meat. Or make a stew pie of flour with apples, cherries, berries, peaches, green or dried pears, raisins, or any other kind of fruit, well sweetened, and most persons will prefer it to all other edibles; while all would eat a much greater proportion of these various preparations of fruit and flour than they now do, but that they are considered too *choice* and *scarce* to constitute a full meal; and thus of nuts and raisins. But for the impression that these desserts are not substantial enough for laboring men, and that they are

the most expensive, that is, if Appetite had its choice, it would eschew meat, and prefer sweetened preparations of bread and fruit almost altogether.

CONTRAST THE RELISH with which most people eat short cake with butter, or griddle cakes and molasses with honey, as compared with meat and gravy. Not that these cakes are recommended, yet they show that preparations of flour and fruit *relish* the best, especially with children.

CAKES are to our daintiest meal, supper, what desserts are to dinner, namely, the very climax of all. This is doubly true of *wedding cake*. Weddings are among the most important events of life, and nuptial suppers are important items of weddings; ⁵³⁷ and hence no expense or pains are spared to render them the very acme of luxurious eating. Do they consist in roast beef? or in any preparation of flesh? No; but in *wedding cake*. If meat were generally esteemed to *taste* the best, the married pair would send out cuts of meat instead of cake. These tests are infallible, though so common as to have escaped general observation. What supper can relish better than bread, butter, and honey, except it be short cake, or some other cakes in place of bread? How insignificant is meat in comparison!

FINALLY, after we have eaten our steak breakfast, fruit and flour or meat dinner and dessert, and short-cake-and-butter supper, "topped off" with preserves and cake, we stroll out in the evening with some loved one, and wishing to heighten our friendship by partaking together the very daintiest morsel known, we step into a confectionery, the sole object of which is to gratify the palate, and call for what? Meat in any form? No, but *ice creams*, etc., or *strawberries and cream*, other berries in their respective seasons; because they furnish the highest gustatory enjoyment known, not to a few, for they would not then be kept, but to *all*, because preparations of meat are rarely kept by confectioneries proper, and when kept, are designed for *food*, not as relishes merely. Who loves roast beef better than rich Vergaloo pears, golden apricots, Morris White peaches, or grapes, and other delicious fruits? If meat tasted best to the many, it would be the "crack dish;" but ice creams, berries and cream, berry short-cake, jellies, preserves, cakes, custards, macaronis, floating islands, blanc-mange, candies in various forms, oranges, lemon pie, and like preparations of flour, sugar, eggs, nuts and fruit, make up what all regard as the real *dainties* of the palate, to the exclusion of flesh preparations.

The Bible says, "Butter and honey shall He eat," because these

were the daintiest luxuries it could name, and Christ's prophetic feeding on them indicated his super-regal rank. "What is sweeter than honey?" Many kindred allusions, the twelve bringing back *grapes* on returning from surveying Palestine included, show that it considered farinaceous food and grapes far more delicious than meat.

THIS EXPERIMENT shall be the final umpire. Strawberries, mashed, sweetened, and watered, with unleavened bread, make as delicious a breakfast as one can well eat. Black and red raspberries, dewberries, blackberries, peaches, pears, sweet apples, baked or raw, eaten with milk and sugar, are equally delicious; as are potato starch puddings, jelly cake, Washington pie, etc. Stewed prunes, with bread, furnish another variation, as do bread crumbed into the juice of delicious grapes. Neither beefsteaks, chops, ham and eggs, fowls, pigeons, canvass-back ducks, quails, woodcocks, etc., yield more gustatory relish, or more substantial food. Make *meals* of them, not desserts merely, and eat them with the keen relish of a fresh, not with a sated Appetite.

EXPENSE favors a mainly vegetable and farinaceous diet. Fruits, grains, and vegetables can be raised far more easily and cheaply than meat; and grain would be much cheaper still if less were fed to stock and distilled. Though expense is nothing where health is concerned, and that diet is cheapest, in the end, be its first cost what it may, which feeds mind and body the best; yet meat is annually growing scarcer and dearer, and when the West and South become well settled up, must be so *very* dear as to preclude its use by all but the wealthy few; as many readers will live to see.

99.—ANIMAL FOOD PROMOTES THE ANIMAL PROPENSITIES.

LION AND TIGER FOOD, and that of carnivora generally, feeds and develops their specialties.⁹² Accordingly all flesh-eating animals, without one single exception, are fierce, savage, remorseless, devoid of all kindness, treacherous, stealthy, cunning, rapacious, selfish, malignant, and ferocious; while graminivora are usually docile and servile. Compare felines with bovines, hawks with hens, weasels with squirrels, wolves with sheep, sharks and alligators with turtles, and learn therefrom that, in proportion as man eats meat, he develops those selfish qualities which always attend it; but that a vegetable diet fosters goodness. This inference cannot be controverted. All that eats attests that animal food constitutionally develops Force, Destruc-

tion, Secretion, etc. The very existence of carnivorous animals depends upon and requires their predominance. Without them their sharp claws, hooked tusks, and powerful muscles, all adapting them to pounce upon and slay their prey, would be as useless as swords with cowardice. What could a sheep do with claws and tusks? or lions and tigers without Destruction? Would Nature create these instruments of death without also creating ferocious Faculties to accompany them? Destruction and a flesh diet are as universal concomitants as fire and heat; else Nature is not adapted to herself. Separating them destroys both.

THE ROAR of chafed lions, how frightful? How terrific the horrid yells of exasperated tigers? Because they are the expressions of their terrible Destruction. You provoke them at your peril. Is there a reasonable doubt that warm blood and raw flesh, still quivering with life, are constitutionally adapted to enhance animality?⁹² Does not this concomitance carry its warrant upon its very front! Animal food, therefore, stimulates animal propensity.

FACTS, those stubborn way-marks of first principles, also still further attest this concomitance. Thus, feeding a dog for months or years on vegetables alone, increases his docility; but exclusively on raw flesh, renders him fierce and dangerous; because meat inflames his Destruction. Hence the known ferocity of butchers' dogs. Slaughter-houses are often left with both doors wide open to air the meat, yet arrant thieves are kept at bay as effectually as if an unchained tiger guarded the premises. The ferocity of meat-glutted, blood-fed dogs is proverbial. Not so with those fed on vegetables. Why is this known difference? Our principle answers.

A YOUNG TIGER, fed on farinaceous food from weaning, became so tame that it was allowed to go unchained about the premises, and ate its food from the hand, even after it was grown up. Yet this taming of that fiercest of all animals, by a vegetable diet, is no more extraordinary than its converse of increasing the ferocity of the dog by animal food, which all can see daily. Both are counterparts of each other, and of this same great dietetic law.

THE ANCIENTS, in training their public fighters for their bloody arenas, in which strength and ferocity were mainly required, fed them chiefly on raw flesh; and at the ferocity thereby produced, all after ages have beep and will be shocked. Diversified experience taught them that the diet of the lion and tiger kindled in man that ferocity which predominates in beasts of prey.

THIS EXPERIMENT might seem too restricted for reliance if it had not been tried, in every variety of modification, over and over again, thousands of times, on the largest and most extensive scales, from the earliest records of humanity to the present time. Contrast the peaceable, life-sparing Egyptians, throughout their entire history, with the animal and man-slaughtering Jews. The former considered the killing of animals a crime, the latter a religious ordinance. The former ate little or no meat, and were amiable and harmless, while the latter, from pastoral Abraham, shepherds throughout all their generations, lived mainly on the flesh of their flocks; besides slaughtering immense herds of cattle and sheep on their altars, and then consuming the greater part of their sacrifices for food; and a more warlike race is not on record. Look at David, truly "a man of blood;" at their ravaging wars, internal and external, throughout their national history; including that terrible carnage which accompanied their final overthrow. Was ever the "trump of war" sounded, from the time Abram "armed his own household" and slaughtered five kings at once, till the destruction of Jerusalem, without being re-echoed throughout hill and dale, till it swept the entire land, and brought together old and young, in martial array, eager to rush upon the field of deadly combat?

CAUSE AND EFFECT in a vegetable diet created this peaceable character of the Egyptians on the one hand, and a carnivorous diet the destructive disposition of the Jews on the other; especially since a flesh diet is constitutionally promotive of ferocity, and a vegetable of docility.

GREEKS AND ROMANS ate meat in abundance, and the terror of their arms attests a corresponding ferocity of temper. The ancients generally lived on animal food, and accordingly were exceedingly sanguinary. A similar contrast of those who inhabit the middle and northern latitudes, who generally eat meat freely, with the inhabitants of the tropics, who eat little flesh, establishes a similar conclusion. But we need not look to other climes or eras for "evidence strong as Holy Writ," that animal food excites the propensities, and especially Destructiveness.

SAVAGES generally live mostly on meat; hence, to a great extent, their savage disposition. The war-loving Indian lives mainly by the chase; and behold his unrelenting revenge! See him bury his teeth in the live flesh of his captured enemy, and, tiger-like, suck out his warm blood, exultingly exclaiming, "The sweetest morsel I ever

tasted!" Hear him powwow around his helpless victims, and, fiend-like, torture them slowly to death, by the most excruciating cruelties possible to inflict. Revenge is the food of the mind whenever flesh is that of the body. Savage ferocity is the natural product of animal food. Point to the flesh-eating nation, now or ever, not destructive. And those are the most so who live the most on flesh. Does not "John Bull's" "roast beef" bear some cause-and-effect relationship to his warlike valor on the field of slaughter, and domination at home?

VEGETABLE-EATING NATIONS furnish a contrast. Hindoos neither eat meat nor love war; and Chinese eat but little meat, and are inferior fighters. Hence their unprecedented numbers. Contrast the amiable Japanese, who eat little meat, with New Zealand cannibals, who eat little but meat, and even *his own species*.⁹¹ The fact is no less remarkable in itself than true to this principle, that all savage nations are flesh-eaters, and the more ferocious the more exclusively they live on meat; whereas, all humane, good-dispositioned, peaceable nations, live on farinaceous food. As in all carnivorous animals, Destruction predominates, in head and character; so all flesh-eating nations have, likewise, great Destruction in organ and disposition; while, as this organ is small and Faculty weak in herbivorous animals, so are they also deficient in graminivorous nations. In short, Destruction is the *constitutional* concomitant of animal food; and necessary in procuring meat.

ANIMAL FOOD INFLAMES Destruction, rendering it morbid as well as large; so that a given amount of it is proportionally far the most destructive in meat eaters. Thus, this organ is relatively less in Anglo-American heads than in German, Scotch, Russian, and many others; yet it is relatively more *excitable*, as is evinced by their greater harshness, hatred, and severity of temper. Behold how all the different facts and bearings of this great truth correspond with all the others.

"ANIMAL FOOD PROMOTES FORCE, one of the most important of all the human attributes.¹⁶⁹ Shall we make ourselves pusillanimous, like Hindoo and Chinese, by abstaining from flesh, or robust and efficient by its use? George Combe lived almost wholly on rare meat during his production of that great work, 'The Constitution of Man.' Meat is absolutely necessary in order to impart great power to human effort."

MEAT DOES indeed promote force, yet force also accompanies a vegetable diet. How much more forcible are lions than elephants, or

tigers than buffaloes? How much more do meat-eating Laplanders and Indians *accomplish* than vegetarian Chinese? One John Chinaman will achieve more *work* than a score of Indians. What have these forest meat-eaters ever accomplished, except with the tomahawk and scalping-knife?

IF MEAT ALONE gave force, one Indian should master two "pale-faces;" whereas, one white man is equal to a score of red ones. White men eat less meat, yet, under every disadvantage, have driven Indians back and back, farther and still farther upon the setting sun, till they bid fair—foul?—to exterminate his race. Or is Indian character in itself desirable? Is it not, in common with that of all other flesh-eaters, hateful? Are New Zealanders so very forcible, at least for *good*? or the Chinese so pusillanimous, except in war? If China is not forcible in butchery, human included, yet is she wanting in any of the essential elements of energy? Look at her canals, commerce, and products. To call her inefficient is to misapply terms. Knock off those shackles of antiquity which bind her hand and foot to past ages, and she would soon vie with our own nation in energy and productiveness. Or hamper us with her fetters of more than three thousand years, and see how every species of public and private enterprise would be held stationary as in a vice. Feeding all China on meat, would undoubtedly cripple instead of excite; would, indeed, render the masses too turbulent to submit to authority, engender private animosities, and foment public rebellions, and by thus changing their government and laws, promote ultimate energy; yet this would be incidental, not legitimate. The turbulence of our ancestors, fostered by flesh-eating, has so changed the governments and institutions of antiquity, as to have ultimately substituted our own republican instead of their druidical, narrow, and restrictive; but we owe our energy partly to these governmental changes.

THE KIND of force meat imparts is analogous to that of the tiger and wolf—force to dare and *kill*, rather than to do. Is the wild bull tame or feeble? Do not both the strongest and the fleetest of animals live on vegetables? The elephant and rhinoceros eat no meat, yet their muscular power and endurance far transcend those of lion and tiger. Deer, antelope, and gazelle feed on herbage, yet distance all flesh-eating animals in the open chase. What flesh-eater is more sprightly and nimble than gazelle and chamois? Since, therefore, the fleetest and strongest of animals eat no meat, must man eat it, or else be weak or sluggish?

ARE HIGHLAND SCOTCHMEN, brought up on oatmeal, and to taste meat no oftener than the moon quarters, so very inefficient? Are the potato-fed Irish weak? Can our own beef-gormands dig or carry more? The strength champion of Philadelphia, in 1839, had never tasted meat. The rice-fed Chinese will out-do "John Bull" and "Uncle Sam," except in shedding blood. So will the herbivorous inhabitants of the Pacific isles. Not that animal food does not develop muscular strength. Carnivorous animals are strong, but herbivorous are stronger, yet have less propensity. Hence, since meat is not necessary to either strength or force, since it animalizes and depraves, and thus does a positive damage but not a necessary good, why injure ourselves by its excessive consumption?

IF MAN'S CONSTITUTION demands meat, those who fulfil this ordinance of Nature would far exceed those who do not; whereas, the *fact* is the reverse; which proves a meat diet unnecessary to strength, or vigorous propensities.

100.—ANIMAL SLAUGHTER BLUNTS THE MORAL SENTIMENTS.

ACTIVE KINDNESS shudders to see calves, sheep, and fowls, tied by their feet, and tumbled together into carts, on top of each other, banged about as if only boxes, kept for days without food, and, after all this living death, hung up by their hind legs in excruciating torture, their veins punctured, faint from loss of blood, struggling for life, yet enduring all the agonies of a lingering death for hours; meanwhile pelted, so as to render their meat white and tender, every blow extorting a horrible groan, till tardy death finally ends their sufferings! All perpetrated on helpless, unoffending beasts, agonizing Kindness only to blunt it! Hear the piteous wails of these wretched animals, on their passage from the farmyard to the slaughter-house! See their up-turned eyes rolling in agony! Witness the desperate struggles, and hear the terrible bellowings of the frantic bullock, who apprehends his fate, as he is drawn up to the fatal bull-ring; or even look at the awful expression of all amputated heads, as seen in market, or carted through streets, and then say whether this slaughtering of animals is not a perfect *outrage* on every feeling of humanity. What well-organized child ever beholds it for the first time, without almost an agony of sympathy? Or can any highly-benevolent adult, especially female, endure the distressing sight, unless accustomed to it? How tender-hearted woman shudders thereat, and shrinks therefrom! Yet she is not unduly sympathetic. If animals must die, at least let

them suffer as *little* as possible; and their meat will taste and nourish much the better, the better they are cared for up to the last.

MEAT BLUNTS THE MORALS, but inflames the propensities, whereas human perfection requires the converse. Man is almost all propensity now. His animality vastly predominates over his morality; whereas, to be happy, morality must predominate.²⁰⁰ All justly complain of the evils of society. The best are depraved enough, and the worst almost devils incarnate. What but *perverted* propensity causes the aggravated evils under which society groans? In what else does depravity consist? Or how can human wickedness and woe be obviated, except by subjugating and purifying propensity by intellect and promoting moral sentiment? How despicable the disposition of tiger, hyena, and shark! Does man require to approximate himself thereto? Would becoming more tiger-like render humanity more perfect? Is predominant propensity human glory and happiness? Would you have your children become more turbulent, quarrelsome, fierce, revengeful, hating, and hateful; more like beasts of prey? Then give them the more meat. Would you not rather render them more lamb-like? Then feed them more on a vegetable diet.

“But brute kills brute. Then why not man kill beast? Has God denied *us* a privilege He accords to beasts?”

COARSE-GRAINED persons can do many things which excite disgust and repugnance in those keenly sensitive and fine-feeling; hence brutes can do what would shock the keener susceptibilities of humanity. Beasts of prey have little Kindness, hence violate none when they slay to eat, but fulfil one. If man had no sympathy for distress—yet what would he be better than beast without it—he, too, might prey upon brute and man; but he has, and therefore must not abuse it by butchering inoffensive animals.

“But *flesh-eaters* neither kill, nor blunt their moral sentiments.”

“THE BLOODY MARY” did not bind the martyrs, nor light the fires of Smithfield, yet signed their death-warrants. As Robespierre only *ordered* the beheading of the victims of the French revolution, yet both were the virtual executioners; so *flesh-eaters* are the real slaughterers, because they give the *order*. The butcher is to the slaughtered what the torch-carrier was to the martyrdom of John Rogers, and the hired servants employed to ply the guillotine are to the exe

cution. All these are only the paid *agents*, whereas the responsibility falls mainly on those who *order*, not who execute under authority. The butcher kills mainly by proxy. The *consumer* is the virtual butcher; because he both requires the slaughter itself, and directs its kind, time, quantity, manner, and everything about it. Unless he demanded it, the poor beast would not bleed. He is the "Mary" and the "Robespierre" of the slaughter-house; because every pound of flesh he eats increases the demand, and thus becomes a virtual death-warrant issued against helpless brutes.

"If man did not raise beasts for slaughter he would raise but few; and those raised and slaughtered enjoy much more from birth to death than they suffer in their slaughter; so that being raised and killed is better than neither.

"Besides, man's Destruction was created to be exercised, and by placing Appetite at its side,⁹¹ Nature says, 'Slay all you need to eat,' while Kindness says, 'Cause them as little *pain* as possible.'"

IF MAN'S BEST GOOD demands flesh, let them die, for beasts and all else terrestrial were created for man. He has a better *natural right* to kill and eat fowls than they worms. Destruction forms as constituent a department of Nature and of man as does Kindness, and therefore has its right sphere. Animals preyed on are usually so prolific that, unless Destruction killed them off, they would soon so exhaust their food as to starve to death, and starve man; just as the excess of canker-worms over leaves sometimes exterminates the worms by starvation.

PROCURING vegetable food, as in farming, also promotes morality and goodness, as well as intellect; while killing animals for food promotes the propensities; which constitute an integral of man, so that their legitimate exercise is as right and proper in its place as is that of his moral sentiments.

101.—VEGETABLES CONTAIN ALL THE NUTRITIOUS ELEMENTS REQUIRED TO SUSTAIN LIFE.

LIEBIG'S ANIMAL CHEMISTRY, one of the most profound and philosophical of works, completely settles this point thus:—

"Two substances require especial consideration as the chief ingredients of the blood; one of these separates immediately from the blood when withdrawn from the circulation. It is well known that in this case blood coagulates, and separates into a yellowish liquid, the SERUM of the blood, and a gelatinous mass, which adheres to a rod or

stick in soft, elastic fibres, when coagulating blood is briskly stirred. This is the FIBRINE of the blood, which is identical in all its properties with muscular fibre, when the latter is purified from all foreign matters.

"The second principal ingredient of the blood is contained in the serum, and gives to this liquid all the properties of the white of eggs, with which it is identical. When heated, it coagulates into a white, elastic mass, and the coagulated substance is called ALBUMEN.

"Fibrine and albumen, the chief ingredients of blood, contain, in all, seven chemical elements, among which nitrogen, phosphorus, and sulphur are found. They contain also the earth of bones. The serum retains in solution sea salt and other salts of potash and soda, in which the acids are carbonic, phosphoric, and sulphuric acids. The globules of the blood contain fibrine and albumen, along with a red coloring matter, in which iron is a constant element. Besides these, the blood contains certain fatty bodies in small quantity, which differ from ordinary fats in several of their properties.

"Chemical analysis has led to the remarkable result, that fibrine and albumen contain the same organic elements united in the same proportion; so that two analyses, the one of fibrine and the other of albumen, do not differ more than two analyses of fibrine or two of albumen respectively do, in the composition of one hundred parts.

"Both albumen and fibrine, in the process of nutrition, are capable of being converted into muscular fibre, and muscular fibre is capable of being reconverted into blood. These facts have long been established by physiologists, and chemistry has merely proved, that these metamorphoses can be accomplished under the influence of a certain force, without the aid of a third substance, or of its elements, and without the addition of any foreign element, or the separation of any element previously present in these substances.

"The nutritive process in the carnivora is seen in its simplest form. This class of animals lives on the blood and flesh of the graminivora; but this blood and flesh are, in all its properties, identical with their own. Neither chemical nor physiological differences can be discovered.

"In a chemical sense, therefore, it may be said that a carnivorous animal, in supporting the vital process, consumes itself. That which serves for its nutrition is identical with those parts of its organization which are to be renewed.

"Chemical researches have shown, that all such parts of vegetables as can afford nutriment to animals contain certain constituents which are rich in nitrogen; and the most ordinary experience proves that animals require for their support and nutrition less of these parts of plants in proportion as they abound in the nitrogenized constituents. Animals cannot be fed on matters destitute of these nitrogenized constituents.

"These important products of vegetation are especially abundant in the seeds of the different kinds of grain, and of peas, beans, and lentils; in the roots and the juices of what are commonly called vegetables. They exist, however, in all plants, without exception, and in every part of plants in larger or smaller quantity.

"When the newly expressed juices of vegetables are allowed to stand, a separation takes place in a few minutes. A gelatinous pre-

cipitate, commonly of a green tinge, is deposited, and this, when acted on by liquids, which remove the coloring matter, leaves a grayish white substance, well known to druggists as the deposit from vegetable juices. This is one of the nitrogenized compounds which serves for the nutrition of animals, and has been named **VEGETABLE FIBRINE**. The juice of grapes is especially rich in this constituent, but it is most abundant in the seeds of wheat, and of the cerealia. It may be obtained from wheat flour by a mechanical operation, and in a state of tolerable purity; it is then called **GLUTEN**, but the glutinous property belongs, not to vegetable fibrine, but to a foreign substance, present in small quantity, which is not found in the other cerealia.

"The second nitrogenized compound remains dissolved in the juice after the separation of the fibrine. It does not separate from the juice at the ordinary temperature, but is instantly coagulated when the liquid containing it is heated to the boiling point.

"When the clarified juice of nutritious vegetables, such as cauliflower, asparagus, mangel-wurzel, or turnips, is made to boil, a coagulum is formed, which it is absolutely impossible to distinguish from the substance which separates as coagulum, when the serum of blood or the white of an egg, diluted with water, are heated to the boiling point. This is **VEGETABLE ALBUMEN**. It is found in the greatest abundance in certain seeds, in nuts, almonds, and others, in which the starch of the gramineæ is replaced by oil.

"The third nitrogenized constituent of the vegetable food of animals is **VEGETABLE CASEINE**. It is chiefly found in the seeds of peas, beans, lentils, and similar leguminous seeds. Like vegetable albumen, it is soluble in water, but differs from it in this, that its solution is not coagulated by heat. When the solution is heated or evaporated, a skin forms on its surface, and the addition of an acid causes a coagulum, just as in animal milk.

"These three nitrogenized compounds, vegetable fibrine, albumen, and caseine, are the true nitrogenized constituents of the food of graminivorous animals; all other nitrogenized compounds, occurring in plants, are either rejected by animals, as in the case of the characteristic principle of poisonous and medicinal plants, or else they occur in the food in such very small proportion, that they cannot possibly contribute to the increase of mass in the animal body.

"How beautifully and admirably simple, with the aid of these discoveries, appears the process of nutrition in animals, the formation of their organs, in which vitality chiefly resides! Those vegetable principles, which in animals are used to form blood, contain the chief constituents of blood, fibrine and albumen, ready formed, as far as regards their composition. All plants, besides, contain a certain quantity of iron, which re-appears in the coloring matter of the blood. Vegetable fibrine and animal fibrine, vegetable albumen and animal albumen, hardly differ even in form; if these principles be wanting in the food, the nutrition of the animal is arrested; and when they are present, the graminivorous animal obtains in its food the very same principles on the presence of which the nutrition of the carnivora entirely depends.

“Vegetables produce in their organism the blood of all animals, for the carnivora, in consuming the blood and flesh of the graminivora, consume, strictly speaking, only the vegetable principles which have served for the nutrition of the latter. Vegetable fibrine and albumen take the same form in the stomach of the graminivorous animal as animal fibrine and albumen do in that of the carnivorous animal.”

102.—FACTS, AND THE EXPERIENCES OF THE AUTHOR AND OTHERS.

THE AUTHOR'S dietetic experience deserves insertion, partly as a guide, but perhaps equally as a beacon. In March, 1835, on his first opening in New York, Mrs. Nicholson, of vegetarian boarding-house notoriety, called for a phrenological consultation, and indoctrinated him with her anti-flesh eating ideas; which he adopted practically. The effect of bathing and no meat acted like magic in improving his health. He was never as well before, and but once since. Before, he was unmistakably in a consumptive decline, which must soon have terminated fatally, but for this timely rescue. After two or three years he began gradually to decline again, yet lived a rigid vegetarian for over twelve years, when he again ate some, yet for about eight years more, but little meat. About 1855 he returned to an ordinary mixed diet with a most decided improvement in his health, and still continues to eat about as much meat as others. He has meanwhile noted the effects of abstinence from meat on others, and come to these conclusions:—

1. ABSTAINING from meat, when one has been accustomed to it, will sometimes have a beneficial effect almost magical, but after months or years of such abstinence, a *return* to a mixed diet will again also *re-improve* health; on the principle that horses, kept on oats, when turned out to grass, at first often grow poor and weak, but, on returning to oats, are decidedly better than if they had been kept on them all the time.

2. ALL EAT TOO MUCH meat, else, abstaining from it would injure, not benefit.

3. THOSE WHO ABSTAIN from meat often fail to supply its place, and thus suffer. Certain it is, that as a general thing, vegetarians become extremely irritable, and often die suddenly. Where is Graham? Dead long ago, though just before his death, at fifty-six, he was as sprightly as a boy; and a post-mortem examination showed no vital organ diseased. Shame, that he should so mortify his disciples and

nullify his doctrine by his own premature death. He was always one of the most irascible and pugnacious of men, and forever at war with everybody, friends and foes equally. He alienated every one of his admirers; told everybody how cordially he hated his wife, and she him; and died one of the bitterest of misanthropists possible. Readers curious on this point will find its proofs in two of his poems, published in a Northampton paper about four months before he died; which evince a gloom, misanthropy, melancholy, morbidity, and consequent mental agony, rarely ever expressed to a like extent. Why? Because his system *lacked* and intensely *craved* some dietetic aliment his food had failed to supply; on the principle that a craving child is always intolerably cross. If his anti-flesh diet was as beneficial as he maintained, why should he both become so bitter with spleen, and then die in his prime? Why did he not live to be ninety, and live and die serene, genial, and jubilant?

WHERE ARE HIS DISCIPLES? Nearly all are dead, or backslidden. Drs. Shew, Burdell, and others who lived out his doctrines, died younger than their leader, and just when they became fully matured, and prepared for work. Let their early death be the commentary on their doctrines.

DR. TRALL, about the only public living advocate of this doctrine, is reputed, with what truth deponent saith not, to be extremely nervous and impatient, if not irritable. Let his personal acquaintances attest. And vegetarians generally, judging from long observation, are a dyspeptic, moody, crotchety, dissatisfied set; at least neither genial nor companionable. Facts do not favor their doctrines.

THE BIBLE CHRISTIANS, per contra, in Philadelphia, many of whom have tasted no meat for two, three, and four generations, are so remarkably good, devout, and pleasant, that a given amount of Destruction and Force in them, sufficient to render meat-eaters violent tempered, only makes them forcible, yet amiable.

"YOU CONTRADICT YOURSELF. You argue one way theoretically, and the opposite practically. Thirty years ago you gave out in your lectures and writings, that you were a thorough vegetarian, but now 'back down' on yourself and disciples. Be consistent, at least with *yourself*, by sticking to your old landmarks."

TRUTH is infinitely above persons. The Author has rather *added* to former views than changed them; but wrote then, writes now, from *conviction*. Let his right hand *perish* sooner than knowingly mislead

mankind. Public men little realize what momentous responsibilities inhere in leadership. They should first make *very* sure that they are *right*, and then swear eternal fealty to *truth*. Let O. S. Fowler perish, if needs be, but let eternal truth prevail; as prevail it surely will. To see and frankly admit an error, is noble; to knowingly *propagate* one, accursed.

103. — SUMMARY OF THIS FLESH-EATING ARGUMENT.

PREVIOUS REASONINGS seemingly contradict each other, while truth is always self-consistent; yet are reconcilable thus—and to these conclusions all of the Author's experiments and observations have finally brought him, that:—

1st. THE SAME PERSON requires different kinds of food at different periods of life—milk during infancy, more and stronger food during growth, the heartiest during middle life, but those less rich as life declines; and that the race was originally adapted to eat some meat throughout all its history; enough, though only enough, to use up what fish, flesh, fowl, eggs, milk, butter, cheese, etc., can be produced without curtailing the fullest supply of grains, vegetables, and fruit;⁹⁷ yet most during its early meridian, while clearing off, draining, and subduing the earth, and fitting it up for future use. Thus men should eat meat as long as they must go to war; or till all wrongs are righted and evils obviated, or all concerned agree to submit to arbitration. Men need meat as long as they have much rough hard work to do, which will be some time yet; and while they require self-protection, which will be till all concede all natural rights to all; which will not be in our day. Yet the great body of human food should be mainly vegetable, with the less meat as man advances. Hence the structure of his teeth is mainly graminivorous, yet they allow of his eating cooked meats, but do not fit him to seize, tear, and swallow living animals.⁹⁶

2d. AT ALL TIMES he is adapted to eat much *less* meat than he now eats, and much more in winter than summer; and very little if any in the tropics, but to subsist mainly on those juicy fruits which resupply the perspiration incident to high temperatures; while those of high latitudes should eat meat and fat, the growth of which fall promotes. Siberians and Kamtchatkans would find it difficult to obtain from vegetables all the carbon they require.

3d. TO NURTURE the moral nature and subdue the animal, forego meat; while all should partake the more of fruits and vegetables the warmer the weather

4th. SOUR STOMACHS, that is, those troubled with wind, should eat but little meat; because its fermentation, or, in plain terms, its *rotting* in the stomach, and the distribution of this putrid mass throughout the whole system, is really horrible, and much worse than that of vegetables. The stench of decaying meat *out* of the system is awful; then how much worse *within* it? No more meat nor anything else should ever be eaten than can be digested before it ferments; yet souring vegetables are not as bad in the system as decaying meat.

5th. FINALLY, when Appetite is normal, and well disciplined,⁹³ *natural relish*, in all persons, at all times, and during all ages, will render an infallible verdict as to whether, and what kinds of meats, vegetables, and fruits, are for the time being best for each.

SOME KINDS of meat are better than others; beef and mutton than pork, ham, and bacon, at least in warm climates. Yet in Texas, where beef is plenty and pork scarce, all who can afford it eat "hog and hominy." Negroes there will not work on beef; while "up north" none will eat pork who can afford beef and mutton.

"PORK AND BEANS" is a favorite dish everywhere, and very hearty. Lumbermen live almost wholly on it, with hot saleratus bread, and strong coffee; yet their hardy habits, exercise in the cold, etc., would make even invalids healthy. The Chinese live and work very hard mainly on pork and rice, probably for the same reason that Southerners relish hog and hominy, namely, because the hominy furnishes muscle and organic materials, while pork furnishes carbon to heat up.

BUFFALO meat should give strength, and has a delicious flavor; while antelope steak has no equal.

GOATS, DEER, and all kinds of game, are better than veal, which is yet immature.

SECTION III.

THE PREPARATION OF FOOD BY COOKING, ETC.

104.—DESICCATION ABSOLUTELY NECESSARY.

ATOMS, the minutest possible, constitute all food. These particles often adhere together very firmly, as in grain, which is hard when dry, and dry so as to "keep" during transportation and use. How could they possibly enter into the organic composition until they are separated? True, the stomach can accomplish this, but has quite

enough to do without. Obviously this should be done as much as possible beforehand. Men have adopted grinding and cooking to effect this desiccation. Seeds swallowed whole often pass clear through the alimentary canal and are voided intact, thus yielding none of their nutrition. Hence grinding and cooking a given amount of grain makes it go further in feeding and fattening animals than if eaten whole. In fact, the chief end attained by mastication is this disintegration, which grinding and cooking greatly aid. Throughout all ages, nations, and families, mankind have adopted both the grinding of grains into flour and the cooking of their food, before eating it; obviously in order to disintegrate its particles.

SOME LET MEAT HANG just as long as it will hang without falling; that is, till its particles have been loosened from each other by incipient decay.

PULPY FOOD, like most fruits, do not need cooking, unless they are so sour as to require to be sweetened, like cranberries, or else mixed with other food, as in making pies, dumplings, puddings, etc. Good fruit is injured in flavor and quality by being cooked; yet tough fruits, like some leathery kinds of apples, are improved by baking. Tomatoes are better raw than cooked, while cooking potatoes right makes them so mealy that the gastric juice can penetrate among and attack all the particles at once.

105.—FLOUR AND BREAD, THEIR MATERIALS, MANUFACTURE, ETC.

BREAD is the veritable "*staff of life*." From time immemorial, and throughout all nations and tribes, except the most degraded savages, some kind of bread has been the staple article of human diet, and will doubtless so continue while men eat. Bread therefore deserves primary consideration, especially since its chief materials are incorporated into most other kinds of food. Other edibles may be generally introduced, as potatoes have lately been, yet never to take the place of "flour victuals," but only to accompany them. With many kinds of food we do not eat meat, yet we eat bread with all kinds, and more bread usually than anything else.

GRAIN, as wheat, rye, oats, barley, etc., crushed and ground into flour, constitutes the chief ingredient of bread. It consists simply of seeds, and all seeds contain nourishment, in order to feed the sprouting chit, till it can put forth its roots, and draw sustenance from the earth. This nutritious principle, stored up for nourishing the plant in its

embryo, is what sustains human and animal life; and the probable reason why the flour of grain forms the best species of nourishment for man is, that it is so highly organized, and so condensed. It can also be ground fine, and by proper management, preserved for years.

WHEAT, the best of the entire cereal family, chemically analyzed, contains about four-fifths of nutritious substances; rye, barley, and oats, about the same; rice nine-tenths, and Indian corn about seven-tenths, while meat contains only about five and a half tenths.

FLOUR, both fine and coarse, bolted and unbolted, is made into various forms of food, both with and without shortening and sweetening, with various kinds single and mixed, as all wheat, rye, Indian, barley, oatmeal, rice, etc., or "wheat-and-Indian," or "rye-and-Indian," or "wheat-and-rye." We also boil each of these kinds of flour into puddings, the main ingredients and dietetic uses of which are the same as bread; or sweeten, shorten, and fry in fat, making doughnuts; or shorten and add fruit, as in the manufacture of apple fritters, and also of pies of all kinds, pot and meat pies included; or thickened into soups, or made into "dressings;" and thus work them into nearly all the food eaten. Even meat-eaters live mainly upon them, and so do many species of animals. Undoubtedly after ages will discover and perfect many other kinds of grain now growing wild in our swamps, mountains, and forests, as a recent one has Indian corn; but cereal grains will always be a staple article of food.

THE PREPARATION of flour, in the best and most nutritious form, is thus commensurately important. Two egregious errors are usually committed in grinding. The weight of the upper stone, and the rapidity of its motion, usually both grinds it so fine, and heats it so hot, as to more or less "kill" its life, and impair its nutritive properties. Coarse ground corn meal is much sweeter than fine ground—proof enough that fine grinding injures.

FINE GROUND flour makes whiter bread than coarse, because it can be bolted more closely; yet shall looks be allowed to impair quality? A good portion of the bran left in greatly improves its nutritive capability; else Nature would have allowed its separation from the flour without grinding. Its presence also greatly promotes that intestinal action so essential to digestion,¹¹⁴ while its absence facilitates that torpor of the bowels and consequent constipation, which paves the way for those stomachic complaints soon to be discussed.¹¹⁶ Fine flour given to hens, cattle, horses, and all other animals, will soon disorder them effectually, and breed disease; and unless men were

stronger constitutioned than they, it would break down and bury all who use it. Indeed, it is now effectually consuming its consumers by hundreds of thousands; not suddenly, but gradually, by impairing digestion, and thus inducing other diseases to which their death is ascribed. Those who eat coarse and unbolted flour bread obviate half their sickness, by keeping the intestinal canal open, and thus carrying off those causes of disease which fine flour bread, by inducing constipation, retains in the system to engender sickness. Nothing but dire necessity should induce one to live habitually on fine flour bread. It directly causes intestinal sluggishness, stomachic disorder, and dyspeptic troubles.

BROWN bread also tastes better than white superfine, as all who make trial can perceive; which is another conclusive proof of its superiority.⁹³ New England's ancestry ate coarse bread, made of rye and Indian, and lived longer, besides enjoying far better health, than their fine-flour-fed descendants have any prospect of living; and Scotch oat-cake and porridge eaters rarely know how dyspepsia feels till they exchange them for "killed" flour bread. Dyspeptics also find coarse bread indispensable; and what is thus necessary to weak stomachs would of course go far towards keeping strong ones strong. Even sailors cannot live on fine flour bread; much less can sedentaries.

THE NUTRIMENT of fine flour bread is also too condensed; just as sugar is highly nutritious, yet eaten alone soon disorders digestion; because there is too much of it in too small a compass. A due amount of bulk is as essential to perfect digestion as the nutrition itself. The bran helps to "fill up," and, besides restraining over-eating, gently irritates the intestinal coating, and provokes action. Lovers of fine flour are quite welcome to their insipid and half "killed" white bread; yet only partial starvation should induce one to partake of it more than a few meals in succession. Those whose bowels are too tender and aperient, that is, who are inclined to diarrhœa, may eat fine flour bread; but twenty-five years hence very few will be ignorant or foolish enough to do so.

106.—LEAVENED AND UNLEAVENED BREAD.

TO RAISE the bread is the next process in its preparation. This consists in causing fermentation, by which a gas is generated throughout the doughy mass, which raises it, or renders it porous.

BREAD RISING is also greatly overdone. Fermentation is the first stage of decay; and creates the gas by souring the dough. To raise

dough without proportionally souring it, is not possible ; because, from the souring alone is this raising gas derived, though habit blunts our taste of it. Yet when it stands a little too long, it tastes very sour. After eating unleavened bread a few months, long enough for your vitiated taste to become normalized, all will utterly loathe and reject the best of yeast bread. Thus from the gas evolved during the baking, alcohol in large quantities can be manufactured ; and alcohol is the creature of decomposition. Yeast is obtained by excessive fermentation ; and the world over fermenting is rotting. This incipient decomposition is introduced by the yeast into the dough, and of course impairs its virtue. Hence, excessive fermentation is highly injurious.

ALL RAISED breads, milk emptyings risings included, are soured in and by the *act and fact* of being raised, and, deposited in the stomach *pre-soured*, of course turn the rest of the contents of the stomach sour much sooner than unleavened bread. Nature keeps the stomach very warm. This fermented bread is what causes most of this modern dyspepsia, on the principle that putting sour milk in with sweet, turns the *whole* mass sour sooner than putting in sweet.

BAKERS' bread is fermented almost to death in order to make the greatest possible loaf out of the least flour. People love to be gulled. If two loaves, both containing the same quantity and quality of flour, but the one puffed up by excessive fermentation, while the other is not thus injured, though abundantly light for utility, were proffered for selection, nearly all would prefer the hollow bulk, though they knew it to be inferior to the smaller, though better loaf. This tempts bakers to contrive all sorts of devices to swell their loaves ; yet neutralize the souring, by putting in alum to absorb more water, so as to weigh more, along with ammonia and other things, which leave the bread vitiated by deleterious compounds. Eating bakers' bread is better than actual starvation, yet nothing but dire necessity should induce one to live habitually upon it.

SOUR MILK AND SALERATUS bread is less objectionable, because the gas which raises it is created, not by decomposition, but by the chemical combination of the acid of the sour milk with the alkali of the saleratus, and raised too quickly to allow the dough to sour, and hence preferable to bread raised with turnpike, yeast, and the like. "Milk emptyings" bread, besides being whiter and sweeter than that made with other emptyings, becomes light before it sours much, and is universally used throughout the West.

MAKE BREAD of coarser flour, unbolted, or bolted but little, raised with saleratus or milk emptyings, and not unduly bloated, thoroughly baked—and its crust is its best portion—and never eaten warm, for then mastication rolls it up into firm masses which the gastric juice penetrates with difficulty; and then eat it more abundantly than any other article of diet.

UNLEAVENED bread is by far the best ever eaten. It keeps sweet from twice to twenty times longer than leavened, of which ship bread, wafers, etc., furnish ample proof.

THE BEST RECIPE for making bread, is: Take what flour is required for a meal; add a little salt, though the less the better, for salt is very irritating; superadd barely water enough to make a thin batter, only a little thicker than for ordinary griddle cakes; beat and work it, the more the better; have your oven and pan *sissing* hot; make a thin loaf, only about a quarter of an inch thick; and when put into the oven, its strong heat will instantly strike a *steam-tight crust* over bottom, top, and sides, and then turn the water in the dough into steam, which this crust *retains*, and which puffs up all parts of the dough, and lightens the bread. A thick loaf would press out this steam, and leave the bread heavy; whereas, the crust of a thin loaf confines it where it is generated, namely, throughout every part of the dough, and thus leavens the entire mass.

EVEN A SOUR STOMACH will *digest* this bread instead of passing it off by fermentation. Crumb it into one tumbler of warm water, and leavened bread into another, and keep both equally warm, and two batches of the leavened bread will ferment to one of the unleavened.

BAKING IRONS, in pairs, with cups in the lower one, opposite to like cups in the upper, the lower cups filled with dough, the upper put on, both pre-heated, and the steam will puff up the dough sufficiently to fill both halves. This is better than a pan.

A MONTH'S or year's supply can thus be baked at once, but must be baked hard, like ship-bread, and ground in your coffee-mill, or softened by hot water, as wanted for use, or eaten crisp. Bakers should prepare flour this way, instead of by fermentation. It can thus be transported like ship bread.

CRISP bread is better than soft, because mastication renders it finer, and mingles the entire mass with saliva better, besides provoking the salivary glands to greater action. This is equally true of all other kinds of food. Toasting bread therefore benefits it.

AERATED, or patent bread, is every way better than fermented, and

made upon a right *principle*, yet not always made just right. As a general thing, it merits commendation and use.

FLANNEL CAKES, buckwheat cakes, and all cakes raised with yeast, or fermented, are liable to the same objection just urged against leavened bread, yet are usually worse, because still sourer.

"HOT SALERATUS BISCUIT" is about as bad as fermented bread; because potash, in all its compounds, whenever it gets access to flesh, eats and keeps on eating, without diminution; and most persons have some crack somewhere in their alimentary canal into which this sale-ratus will work, and eat on to their perpetual injury. Hence it aggravates bronchial difficulties, and provokes a hacking cough. All hot raised bread also wads up, while being eaten, into doughy masses, which sour before they can be digested from their outside.

RICE contains a greater proportion of nourishment than any other article of diet, and the virtue of oatmeal is attested by the powerful frames and strong constitutions of Highland Picts. Fortunately it is coming into general use. Promote its introduction. As a diet for children, when eaten with milk, it probably has no superior, if equal.

RYE is not generally appreciated. Unbolted rye flour, made into hasty-pudding, is one of the most easily digested food dyspeptics can eat; and palatable. Rye bread is nutritious, aperient, and, but for its color, would undoubtedly rival wheat. Try it as a change.

BARLEY bread was once a staple article of diet. May it again become a general favorite. The distillery should no longer be allowed to consume so wholesome, palatable, and excellent an article of food.

107.—PASTRY, EGGS, AND SPICES.

CAKES AND PIES are rarely eaten as food, but usually as relishes merely. They are generally deemed unwholesome, and justly so, because composed of flour and grease, or shortening sweetened, which is exceedingly difficult of digestion. Flour sweetened is all right; but when shortened as well as sweetened, the stomach dissolves it with difficulty; and hence cake is unfit for children.

BAKERS' cake is still worse. Quantities of ammonia, of which hartshorn is made, are put in to render it light; and to all this is added colored coatings, composed of poisonous ingredients. Domestic cake is bad enough, but bakers' is utterly unfit even for adult stomachs, much more for juvenile. The following receipts must effectually obviate all doubts as to its unwholesomeness:—

POUND CAKE.—"A pound each of butter, sugar, and flour, with

ten eggs." As ten eggs weigh a pound, of course half the cake is butter and eggs, and only one quarter flour, and that completely saturated with sweet, grease, and eggs, baked *an hour*. Now we know that eggs cook abundantly in three minutes, and become extremely tough and hard in six; and since hard-cooked eggs are universally conceded to be difficult of digestion, what must they be after being baked *an hour*, and in fat and flour!

SPONGE cake consists of only one-fifth flour, two-fifths eggs, baked to a crisp, and the balance sugar. Shrewsbury cake contains one-third flour, above one-third butter and eggs, and the balance brandy, sugar, and nutmeg. Jumbles are composed of about one-third flour, one-quarter sugar, and above one-third of eggs, milk, and butter. Soft cakes contain nearly half melted butter. Butter and eggs make up above half of a cake called "wonders;" and wondrously unhealthy it must be. Even plain gingerbread consists of above half cream, butter, molasses, and ginger. Composition cake takes only one-fourth flour, and nearly three-fourths eggs, butter, cream, and brandy; a full quarter being melted cream and butter. Since melted butter, fat, and cream compose about half of most cakes, while about one quarter consists of eggs baked nearly or quite an hour, is not cake, of necessity, most unwholesome? Add to all this, that nearly a fifth of the frosting of bakers' cakes is composed of oxides of lead, to impart color; who that eats it but must thereby impair the stomach, engender disease, and hasten death? Our ancestors ate little cake, yet their descendants think they cannot live without it; and a mistaken kindness feeds it to children as freely as if it were the staff of life, and the evil is aggravated by feeding it *between meals*.

PIES may be rendered wholesome or unwholesome, at the option of the maker. The union, however intimate, of bread and fruit, forms the best diet in the world; you may live wholly on it. An excellent crust can be made of flour, potatoes, and milk, or water, without shortening. Yet all pies should be eaten, not after a full meal, but as a *part* of it—and as the *first* part rather than the last; because we eat them mainly as a relish; and all know how much keener the appetite is at the beginning than close of meals. If cakes must be eaten, let them be eaten when the Chinese eat their relishes—first, not last; and at breakfast instead of supper.

EGGS, properly cooked, are undoubtedly as wholesome and nutritious as palatable.⁹³ They contain quantities of carbon, and also gluten, fibrin and the very compounds required by the animal

economy, and are especially good for children. Yet very much depends on how they are cooked. Fried in grease, as "ham and eggs," or "pork and eggs," they are hard of digestion, as well on account of being generally over-done, as saturated with melted grease. Poached eggs are liable to a similar objection. But soft-boiled eggs, eaten with bread or other substantial food, are as useful as delicious. Use little butter or salt, because a little practice will render them better alone than seasoned. Butter, salt, pepper, everything mixed with them, takes from, or obscures their egg taste; yet this taste is what makes us relish them.

SPICES and condiments are injurious. Their very nature is irritating, heating, and feverish. Like alcoholic liquors, they stimulate temporarily only to debilitate ultimately. They impart no inherent, protracted vigor to the system, but only goad, lash up, and then prostrate. Especially do they irritate the stomach, besides blunting the taste, disordering the appetite, benumbing the nerves they touch, and of course deteriorating natural relish.⁹³ They induce us to eat too much, because we eat, and keep on eating; vainly attempting to make up in quantity that gustatory pleasure lost by this blunting. They also weaken the salivary glands. Mustard, peppers, cloves, ginger, cinnamon, and the like, deteriorate relish and promote dyspepsia; except that red pepper, in some states of the stomach, provokes its action without exhaustion, and benefits.

VINEGAR, pickles, etc., are undoubtedly beneficial, their acid being just what the stomach sometimes needs; yet chow-chow gives dyspeptics more trouble than anything else they eat. Still, in these and all like cases, normal appetite is an infallible guide.⁹³

WHATEVER DETRACTS from or obscures the natural taste of food, thereby impairs the luxury of eating. The deliciousness inheres in *food*, not the spices; in the bread, not butter, or gravy, or sauce, or other things often eaten with it as relishes. When we cannot enjoy simple food simply prepared, we cannot enjoy it with all the "seasoning," improperly so called, with which it can be cooked or eaten. Whatever is fit for food, Nature has already seasoned for us infinitely better than art can season it. Condiments both obscure Nature's rich flavors, and also blunt our powers of perceiving them, to say nothing of their deleterious consequences; hence practical wisdom dictates that food should be eaten with as few spices as possible. Yet modern cookery is all seasoning, a total perversion of Nature's dietetic simplicity.

CONFECTIONERY is so closely allied to pastry as to deserve a passing remark. Ice creams are not objectionable, except when the stomach is overheated. Their being frozen is their greatest objection. They may be eaten at, or right after meals, with comparative impunity, provided they are allowed to melt first, or else are eaten so *slowly*, that they warm *in the mouth*. But candies in all their forms are detrimental, because so very rich, and colored with poisonous ingredients; because usually eaten between meals or late at night; and especially because they pervert the relish, so that natural food tastes insipid, and rich food is sought to fill the vacuum they create. They are exceedingly liable to sour on the stomach, which they always overload, and thus stupefy the brain, breed worms, and incite disease. Children especially should never be indulged in them. They also soon ruin the teeth; which is a sure sign that they first impair the stomach.

108.—FRUITS.

GOOD FRUITS are one of the most delicious articles man can eat. Of this all are practical witnesses. Their lusciousness guarantees their utility, to which it is proportionate. Honey and sugar are most delicious at first, but soon cloy, because their nutrition is so highly concentrated. Not so with good fruits. Let a person moderately hungry, sit down to a plate of honey, or butter, or sugar, and he loses his relish before he enjoys a tithe of the real gustatory pleasure he can take in as many first-rate peaches, pears, apricots, nectarines, or even apples or berries, as his stomach will bear. Than delicious fruits what greater dainty can be served up to man throughout Nature's ceaseless round of alimentary bounties? For what other luxury do men pay as high a price? Vergaloo pears often command one dollar per dozen. Fifty cents apiece are often given for a peach or pear, more than treble the cost of ice cream, than which they are certainly more delicious. Yet there are still better fruits than these. All love good fruits. See how fruit-crazy all children are, and what enormous quantities of pears, peaches, strawberries, apples, etc., are annually consumed in our cities. That is best which tastes best,⁹³ and since fruits relish better than anything eaten, therefore they are the most wholesome; prevent or remove constipation; and often act like a charm upon both the body and mind. Different constitutions require different kinds, yet ripe fruits of the right kind, are better even in sickness than medicine; and when eaten with good bread, nothing is equally palatable or wholesome. They rarely cloy the appetite or

clog the stomach, but tend to keep the bowels open, head clear, passions cool, and the entire man healthy and happy. Just try this experiment. Sit down to a breakfast of first-rate fruit and unleavened bread, and say if it is not the best breakfast you can have. Than peaches cut up and sweetened at supper, what is more delicious? Or than strawberries and cream with bread? Of choice pears this is still more true. Berries with bread and milk are good eating. When none of these can be obtained, good apples, baked or raw, relish well.

A PERPETUAL ROUND of fruit is served out to man. Apples keep the entire year, and pears of the very best varieties till strawberries appear. A friend of the Author had Coe's golden drop plums the first of June, which he had kept perfectly sound all winter, and the frost damson keeps till November; while the Amber primordium ripens early in July. Many other kinds ripen along through the winter and spring. Pears and plums can be kept the year round as easily as apples; and summer fruits, by canning, keep perfectly fresh, and improve, for years. And hot-houses give fruit in winter and spring. We can also preserve, or make them into jellies. Yet this process, besides deteriorating from their flavor, impairs their digestibility. Preserves are too rich. Their nutrition is too much concentrated. Yet the virtue of the juice can be extracted and then *dried*, so as to preserve its original flavor and dietetic utility. Most kinds of fruit can be dried, and thus kept, though this process destroys much of its goodness and sweetness; yet dried fruits, stewed, is far better than none.

STEWED APPLES, sweetened, make an excellent relish with bread; yet apple-sauce should be made every few days, instead of being made so rich as to keep all winter. But, after all, nothing equals simple bread and choice fruit, if people only knew it, both for health and luxury.

COOKING dissipates much of the flavor and virtue of good fruits, yet poor can be improved by being cooked and sweetened; but first-rate fruit and bread are good enough for a prince, and the best pie, cake, and dessert, in the world.

GREEN fruit, however, is most pernicious. None realize how many lose their lives directly or indirectly thereby. When it does not kill immediately, it often deranges the stomach, breeds worms, and induces other diseases, which, sooner or later, complete the work of death it begins. Adults are really culpable for eating fruit before it is fully ripe. No children would ever eat it if supplied freely with

ripe. Parents should see to it that their children have good ripe fruit as much as bread.

MOST CITY FRUITS, especially peaches, are picked green, before they get their flavor, that they may keep the longer. Those who would have good early fruits, must *raise* and pick them from their own vines and trees.

FOREIGN fruits are good, but indigenous better. Nature adapts the products of every clime to its dietetic requisitions ; and hence has made those fruits to flourish best in every clime which its inhabitants require. Yet imported fruits augment variety, and those which will keep well may be eaten freely with profit. Of these, oranges, lemons, pine-apples, bananas, and nuts, are as healthy as delicious, yet are picked too green.

PEARS contain iron, which has been shown to be one of the most important agencies for carrying forward the life process.⁸² The most delicious of them, as the Seekle, Rostizer, Beurre Bosc, Beurre d'Anjou, and others, are among the most delicious morsels with which man can regale his palate. They are thus luxurious because they are proportionably beneficial.⁹³ So, raise and eat them in abundance. And they ripen off the tree.

GRAPES probably stand at the head of all fruits. The ancients celebrated their first ripening annually by their most hilarious feasts, and worshipped Bacchus because he worshipped wine. They at first used grape juice just pressed, but found that what was left over, and fermented, also relished, and made wine of it ; the consumption of which has descended to us, and extended to most civilized countries and peoples. Grapes thin the blood, and also enrich it, thus doubly improving it ; and can be so eaten as to produce almost any physiological effect desired. Eaten with the skins, they relieve constipation, and promote evacuation ; while ejecting the skins, after chewing them well, so as to extract the part immediately under them, causes astringency.

FEVERS are mitigated, and often broken up, by their use. *The grape cure* restores chronic invalids, whom other cures fail to benefit. In their season, which can be made to last the year round, they should constitute an important part of human diet.

THE WALTER grape, originated and propagated by A. J. Caywood, of Poughkeepsie, N. Y., is said to *dry on the stem*, that is, make raisins, by which they could be had everywhere, year in and year out, if extensively cultivated ; to grow farther north and south, and on a

greater variety of soils, than any other kind, besides ripening earlier, keeping longer, growing better, and being more prolific and luscious. It is a seedling of the Diana and Delaware, and is the *ne plus ultra* of all the modern varieties ; besides being a first best wine grape.

THE WHOLE of the grape was undoubtedly made to be eaten, as a general thing, and its parts only when special physiological results are required. When the Deity created it, he compounded all its ingredients with a view to their highest combined utility.

109.—SWEETS, MILK, BUTTER, CHEESE, ETC.

SWEETS are as healthy as palatable.⁹³ They contain starch and carbon in great abundance, which are two of the principal ingredients required in the nutritive process. Yet they should be commingled with food just as Nature has mixed them with all kinds of edibles. Sugar is extracted from sorghum, the cane, beet, and maple, and even from cornstalks, and can be made out of almost anything which will serve for food. It should therefore be duly diluted, and then rarely cloy, but greatly enhances the palatableness of almost everything eaten, especially of "flour victuals." Sweet apples and fruit are much more nutritious than sour, and greatly facilitate the fattening of stock.

MOLASSES is good, because, besides yielding a great amount of nourishment, it stimulates the intestinal canal, and thus helps to evacuate obstructions and waste matter. Eaten with Indian meal made into puddings or cakes, it becomes highly aperient, and thus carries off causes of disease. Let children be served with it at least once or twice a week, nor should adults eschew it. But that made every few days directly from good sugar, especially loaf, by adding water and boiling, is very much better than that made down South, and exposed, during transportation, to the hot sun, till it ferments or sours, when it has a like effect with fermented bread.¹⁰⁶ Those who eat sweets while making sugar, stock included, thrive remarkably.

HONEY is also most delicious, and, duly mixed with other things, may be eaten with profit, especially in winter, but not in summer ; because it is highly charged with carbon, little of which is required in summer, but much in winter. Indeed, sweets generally should be eaten more sparingly in warm weather and climates than in cold. Yet when honey and other sweets sour on the stomach, they should not be eaten.

MILK is highly nutritious. It contains caseine, and this fibrine and albumen, in a highly soluble state, so that they can be easily carried

to all portions of the system, and also nitrogen, a superabundance of which, so that it can be deposited and remain, is essential to growth. A milk diet is therefore peculiarly adapted to promote the growth of children and youth; and the fact that Nature has ordained it as the natural food of infants, is no mean guaranty of its utility. Its promotion of the growth of all young still further recommends it. It also increases sleep, and hence is the better for supper, especially that of children, and probably for the wakeful. Sour milk and buttermilk, sweetened, are nutritious and more healthy than sweet milk, which must be curdled before it can be digested. The Author attributes his recovery from a consumptive attack to the use of buttermilk, and relishes sour milk sweetened much better than sweet. The Germans strain all their sweet milk into sour, and thus curdle it. Some cannot eat it unless it is previously curdled. Eaten with sweet cider, it becomes delicious and wholesome.

BUTTER, made from the oily properties of milk, contains a great amount of carbon. Its nutrition, like that of sugar and honey, is highly concentrated. But it soon becomes rancid when exposed to heat, as it always is in the stomach; and in this form is peculiarly obnoxious. It often causes cutaneous eruptions, boils, and the like; and eaten in warm weather, and in those quantities in which it is generally consumed, loads the system with corruption, renders many miserable for life, and hurries thousands into untimely graves.

CREAM is better than butter, and certainly more palatable, and may be eaten with bread, or bread and fruit, with comparative impunity, at least in cold weather. Some stomachs cannot manage butter, except in small quantities; and it proves detrimental to dyspeptics generally, but sweetened cream is far more palatable, and less objectionable.

MELTED butter, as eaten on warm bread, or on hot, short, or buckwheat, or wheaten cakes, is pernicious; because melting embodies it into masses, which the gastric juice can attack only from their outside, so that the warm inside decays before it digests; yet, when well mixed with food, it digests before it turns.

BUCKWHEAT CAKES, swimming in melted butter and molasses, can be borne only by few, because their sourness turns the sweet eaten with them sour; and few things are as bad as sweets soured in the stomach. Meat fried in butter is injurious. When the system wants carbon, butter may be eaten with profit, yet cream is better; but since carbon superabounds in most persons, so as to cause much disease,¹¹³

butter only enhances both this superabundance and its diseased consequences.

CHEESE suits some stomachs, and aids digestion, but often troubles children, and should be administered to them sparingly; yet pot-cheese, made of sour milk, is nutritious, and usually harmless.

CUSTARDS may be eaten except in cholera seasons, and when the bowels are loose. Nothing induces cholera in its various forms equally with custard turned sour in the stomach. It is so offensive to the bowels that, in their haste to expel it, they often empty out the blood.

110.—PEAS, BEANS, POTATOES, ONIONS, BEETS, CARROTS, TURNIPS, SQUASHES, ETC.

VEGETABLES generally may be eaten freely, with profit. Ripe beans and peas contain a great amount of nutrition, "stick to the ribs," make good blood, and should not be allowed to fall into disuse. Made into soups they relish well, and constitute a standing article of diet. Daniel of old fared well, and looked fair, on lentils.

POTATOES, a new but popular article of diet, deserve all the practical estimation in which they are held, and are one of the best articles of human food probably; because they grow in the ground, and are therefore highly electric, and hence feed and sustain excitability. Eaten or mashed when first boiled, or baked, or roasted, they become perfectly disintegrated, so that the gastric juice penetrates and solves the entire mass all at once; yet eaten after they become cold, solid, tough, and leathery, are most injurious, because the gastric juice can attack them only from the outside of their unchewed pieces. Though not very nutritious, yet on this very account they "fill up," and thus prevent our taking excessive nutrition in other forms. They are very fine and palatable when well prepared, yet should be eaten with bread, or their bulk will be too great for their nutrition. Potato starch pudding is nutritious, and easily digested.

ONIONS are both palatable and wholesome. The French consume them freely. They are especially good in colds. The ourang-outang, when suffering from colds, eats them raw in great quantities, and would eat nothing else. They are aperient, and their syrup, sweetened, relieves oppressed lungs, and restores suppressed perspiration. For incipient infantile colds, they are admirable. When eaten by those who have been bitten by venomous serpents, or applied, pounded, as a poultice to the bite, they give immediate relief by extracting the poison; and sometimes cure hydrophobia. They soon turn black

when applied to the feet of fever patients, because they extract disease. In El Paso, Texas, they grow to an extraordinary size, are amazingly prolific, and remarkably sweet and delicious.

GROWING ABOVE GROUND, or below, makes this genuine difference in vegetables; that, whatever grow *below* ground are *positive*, and therefore grow *from* the sun; whereas, whatever are *negative* reach *towards* the sun, and grow *above* ground. Those, therefore, who are *positively* charged electrically,¹⁵⁵ that is, are highly *nervous*, need positive food, or that which grows below ground, to support their excitability, which it also increases, and hence the fondness of the Irish for potatoes; while those rather passive than positive, cool almost to tameness, prefer and require *negative* food, or that which grows above ground; though eating tuberous or positive food would tone them up, as eating above-ground or negative food quiets and soothes those who are too excitable.

BEETS, carrots, and turnips are good food, and should be eaten often. Parsnips are excellent, yet rather hard to digest.

CABBAGE cooked with pork digests with difficulty. Only strong stomachs can master them; yet cold slaw digests easily and rapidly.

GREENS are aperient, healthy, and palatable.

SQUASHES and pumpkins are good, either stewed and eaten as sauce, or with bread, or made into plain pies; yet should not be spiced to death, or till their taste is nearly obliterated, and utility impaired. To some constitutions squash is especially serviceable.

IMMATURE esculents, such as green cucumbers, radishes, corn, etc., are at least doubtful as to utility. Wait till they get their growth and maturity. The mere fact that they are green makes strongly against them. As a general thing, all edibles should be ripe before eaten, partly because ripening so far disintegrates their particles that the gastric juice can penetrate them; whereas, their greenness causes them to pass into the stomach in solid chunks, which the gastric juice can attack only from their surface, so that they ferment before they can be digested. Only those whose digestion is excellent should venture to eat them. To children and adults having weak bowels they always prove injurious, and sometimes suddenly fatal. They often kill even cattle and horses. Why jeopardize *life* for a momentary indulgence?

BETTER vegetables and fruit are grown in rich soil rather than poor, in new than old, and quickly than slowly.

NUTS, as generally eaten, are unwholesome, because often eaten between meals, which is injurious, and when the stomach is already

overloaded; and because they contain a great amount of carbon, the superabundance of which is one great cause of disease.¹¹³ Yet eaten with, and as a part of food, they are highly beneficial, eminently nutritious and palatable. The inhabitants of the south of France, Savoy, and a part of Italy, live almost exclusively on chestnuts during fall and the early part of winter, making them into bread and puddings in place of flour. Nuts and vegetable oil contain abundance of carbon, and also gluten and fibrine, three of the most important elements required for sustaining life, yet should be dried or cooked.

SECTION IV.

HOW TO EAT; OR, MASTICATION, QUANTITY, TIME, ETC.

111.—THE MASTICATION AND SALIVATION OF FOOD.

How shall we eat? With teeth always, stomach never. Nature forbids our throwing food in as with a shovel. By rendering its only passage-way small, she literally compels us to deposit it in small parcels. She has also furnished us with a mouth, set all around with two rows of teeth, which fit exactly upon each other, and are every way adapted to crushing it to atoms, as shown in engraving No. 100. We cannot swallow our food without its being more or less chewed.

NATURE DESICCATES food and fruits for us. What is the ripening process of all fruits but the disintegration of their particles, so that the gastric juice can commingle with all at once. Pears are not fully fitted for eating till rendered soft and buttery by that maturing process which, by loosening the particles from each other, renders them salvy and buttery. No peach is fully edible till just before it begins to decay; that is, till this disintegration approaches rottenness. Green fruits disturb the bowels because their particles cling tenaciously together.

TO PERSUADE, as well as compel such mastication, Nature has rendered it highly *pleasurable*. Instead of its being tasteless, she has given it a far more delicious flavor than all the spices of India could impart. Yet man does not know how to enjoy a tithe of the gustatory pleasure she has appended to eating. Not one in thousands knows how to eat! All know how to eat enough, yet few know how to eat *little* enough.¹¹² All know how to eat fast enough, but very few know how to eat slowly enough. And strange as it may seem,

few know how even to *chew*, simple, easy, and natural as this process is! Nine hundred and ninety-nine in every thousand eat mostly with their *stomachs* instead of with their teeth. One would think that this poor slave had to perform twice its proportionate task, simply to digest the enormous quantities of heterogeneous compounds forced upon it, instead of being compelled, in addition, to do what the teeth should previously have done; yet this is universal. Is eating indeed so very onerous that it should thus be hurried and slighted? Most men pitch and shovel in their food in great mouthfuls following each other thick and fast, which they give a twist or two, hit a crack or two, and poke down "in a jiffy;" eating in five minutes as much as would take a full hour to eat well. Americans generally treat eating as they do impertinent customers, to be dismissed without ceremony, for something appertaining to business. Than the due feeding of the body, what is more important?⁹⁰ Of course the time occupied in eating should correspond. Besides, how can we enjoy the gustatory pleasure Nature has appended to eating, without taking ample *time* for such enjoyment? Instead of despatching our meals to get to business, we should despatch business, but eat at perfect leisure; never sit down to the table in a hurry, nor till we have dismissed all idea that we have anything else on hand; and then eat as leisurely as if time and tide waited for us. The ox and horse eat as quietly as though their food was their all. Only swine bolt down their food; and well they may, for their tastes are so coarse that they eat what is most loathsome, and derive their pleasure from quantity mainly. Shall man imitate them? Shall he bolt his food and hurry off to business, and thus forego gustatory enjoyment, as well as shorten his days; thereby curtailing that very business he is so anxious to do? Take ample time to eat well, and you will live the longer, which will enable you to do the more business. Eating fast is the worst possible stroke of business policy you can adopt. Let business stand, while you eat deliberately. Let *nothing* hurry you to, or at, or from the table. Make eating a *paramount* business, and the acquisition of wealth a trifling toy in comparison. No one should deposit an ordinary meal in less than an hour. How foolish to swallow it with swinish voracity in five minutes! Yet some make quick eating their *boast*!

THE LOSS of gustatory enjoyment consequent on eating fast, though great and irreparable, is one of its smallest and lightest evils. It breaks down the stomach, and thus unmans and diseases the entire

system. No other cause, if even a combination of causes, is as prolific of dyspepsia and all its dire array of evils, as this and sour bread. We have not overrated the importance of a due selection of food, yet its proper mastication is equally great. Eat slowly and masticate thoroughly, and the kind of food eaten, however noxious, will rarely break down the stomach ; but eating the best selection of food fast will ruin almost any stomach. How can the gastric juice penetrate food unless it is mashed fine ? Depositing it in chunks retards its solvent power for a long time, meanwhile irritating and weakening ; whereas, if it were well crushed before it entered the stomach, this juice could penetrate it, and digest it before it ferments.

SALIVATION is effected by mastication. Nature has stationed five glands about the mouth, two at the back part of the jaws called the parotid, two at the sides of the lower jaws called the sub-maxillary, and one under the tongue called the sublingual, always found at the root of boiled tongues, which secrete a half-watery, half-stringy viscid, called saliva, which they discharge into the mouth when we eat. Chewing food mingles this saliva thoroughly with it. Taking it into the mouth provokes these glands to secrete and discharge great quantities of this saliva. Even the sight of food "makes the mouth water." Tantalize a hungry dog a few minutes with the sight of his dinner, without giving it to him, and this saliva will run out at the corners of his mouth, and hang down in transparent gelatinous strings. That clear, tasteless spittle which lubricates every healthy mouth, especially while eating, is composed mainly of it.

SOME IMPORTANT end in the nutritive economy is effected by it, else it would not exist in such great abundance. Probably half its virtues are not yet known ; but the following chemical analysis of it, and some of its effects on food, attest both its utility and absolute necessity :—

" M. Mialhe has recently made numerous researches with reference to the physiology of digestion. The essential basis of the alimentation of animals, he states, is constituted by three distinct groups of bodies : albuminous, fatty, and saccharine matters. The labors of modern chemists have shown that albuminous substances become assimilatable through the assistance of the gastric juice, which, by its acid, swells these azotized products, and by its *pepsin* liquefies them, a phenomenon analogous to that of diastasis on amidon. Fatty matter becomes assimilatable by the intervention of bile, but with regard to feculaceous and saccharine matter, says M. Mialhe, there is nothing positive known. This lacuna in science he has endeavored to fill.

" The new facts at which M. Mialhe has arrived, tend to show that

all hydro-carbonaceous substances can only undergo the phenomenon of assimilation when they have been decomposed by the weak alkaline dissolutions contained in the vital humors; either immediately, as with glucose, dextrine, sugar of milk; or mediately, as with cane sugar and amidon, which have to be first transformed in the economy, the one (cane sugar) into glucose, the other into dextrine of glucose. As to hydro-carbonaceous substances, which are neither susceptible of fermentation nor of decomposition by weak acids, or alkalies in solution, such as lignite or mannite, they escape, in man, the digestive and assimilating action. But by what chemical action is the amidon transformed into dextrine and glucose? Numerous experiments have proved to M. Mialhe that this transformation is produced by the saliva, through a principle which the humor contains, a principle comparable, in every respect, to *diastasis*. In order to isolate it, human saliva, first filtered, is treated by five or six times its weight of alcohol, alcohol being added until precipitation ceases. The *animal diastasis* is deposited in white flakes. It is gathered on a filter, from which it is taken still moist, and dried in layers on glass, by a current of warm air, at a temperature of from forty to fifty degrees (centigr.); it is preserved in a well-stoppered bottle. This active principle of the saliva is solid, white, or of a grayish white, amorphous, insoluble in alcohol, soluble in water and weak alcohol. The aqueous solution is insipid, neutral; the sub-acetate of lead does not give rise to precipitate. Abandoned to itself, it soon becomes acid, and whether or not in contact with the air. This *animal diastasis*, studied comparatively with diastasis extracted from germinating barley, presents the same mode of action. It transforms amidon into dextrine and glucose; acting on starch, and elevating the temperature to seventy or eighty degrees, the liquefaction is nearly immediate. One part of this substance suffices to liquefy and convert two thousand parts of fecula. The agents, such as creosote, tannin, the powerful acids, the salts of mercury, of copper, of silver, etc., which destroy the properties of *diastasis*, act in the same manner with respect to the active principle of saliva. At an equal weight they both liquefy and transform the same quantity of hydrated amidon. It appears, even, that the active principle of germinated barley is seldom as energetic as that of saliva, which is owing to the greater facility of obtaining the latter in a pure state. Finally, as a last resemblance, the *animal diastasis* existing in the saliva of man rarely exceeds two thousandths, and this is exactly the proportion of the diastasis contained in the germinating barley."—*Lancet*.

Food subserves two indispensable life ends, supplying organic material,⁹⁰ and that carbon which helps oxygen create animal warmth. Oxygen and carbon can combine only in their fixed proportions, which is always invariably the same.

ITS SOLVENT powers are wonderful, sufficient to convert *two thousand times* its own bulk of food into a paste-like mass prepared for the action of the gastric juice; besides facilitating deglutition; for without it food would be too dry to be swallowed easily. It also liquefies

the starch of food, one of its important ingredients. Unless we both masticate and salivate, we oblige the stomach to do both its *own* work and that of the teeth; whereas, especially weak stomachs are barely able to do their own work. No food can make good blood without good salivation. Please note this principle, as we shall find several important directions on it for the cure of disordered digestion.

ITS DEGLUTITION is next, or passing it down the œsophagus, or meat-pipe, a long duct connected with the back part of the mouth (see engraving, No. 102), and furnished with longitudinal and transverse fibres, which, contracting from above downwards, impel the food down into the stomach; but contracting from below upwards, as in vomiting, expel it upwards, into and out at the mouth, often with great force.

112.—THE RIGHT QUANTITY OF FOOD DETERMINED BY APPETITE.

OUR CONSUMPTION of food for the time being should determine the amount we eat. The harder we work with head or hands, and the colder the weather, the more we need, and *vice versa*. To eat just enough, but never too much, is most important.

NORMAL APPETITE is as perfect a guide touching *quantity* as kind;⁹³ and its loss or vitiation is most unfortunate.

OLD PARR, who became a father after he was one hundred and twenty, and retained his health and all his Faculties unimpaired, till he visited the royal court, aged one hundred and fifty-two, died about a year afterwards, from slightly letting down his extreme abstemiousness.

LOUIS CORNARO, who by abandoning those excesses which broke his constitution and threatened him with death at thirty-six, baffled disease in its most aggravated form by confining himself to less than twelve ounces of solid and exclusively vegetable food per day, was over-persuaded to increase this quantity only two ounces, the effects of which he describes as follows:—

“THIS INCREASE, in eight days, had such an effect upon me that from being remarkably cheerful and brisk, I began to be peevish and melancholy, and was constantly so strangely disposed, that I neither knew what to say to others, nor what to do with myself. On the twelfth day I was attacked with a violent pain in my side, which held me twenty-two hours, and was followed by a violent fever, which continued thirty-five days, without giving me a moment’s respite, my only sickness during *sixty-three years* of abstemiousness.”

RICHARD LLOYD, “a strong, straight, upright man, wanting no

teeth, having no gray hairs, fleshy and full cheeked, and the calves of his legs not wasted or shrunk, his hearing, sight, and speech as good as ever," at one hundred and thirty years of age, being persuaded to substitute a meat and malt-liquor diet, for one consisting exclusively of bread, butter, cheese, whey, and buttermilk with water, "soon fell off and died."

DR. CHEYNE reduced his weight from four hundred and forty-eight to one hundred and forty pounds by abstinence, grew corpulent and sick on a more generous diet, and was restored by abstemiousness. His practical and theoretical maxim was,—

"The lightest and least meat and drink a man can be tolerably easy under, is the shortest and most infallible means to preserve life, health, and serenity. Nothing is more supremely ridiculous than to see tender, hysterical, and vaporish people perpetually complaining, yet perpetually cramming; crying out that they are ready to sink into the ground and faint away, yet gobbling down the richest and strongest food and highest cordials."

DR. JAMES JOHNSON, one of the ablest of modern physiologists, who cured himself of an aggravated dyspeptic malady by rigid abstemiousness, and then wore out two armies, in two wars, and thought he could wear out another, says,—

"THE QUANTITY should never exceed half a pound in weight at dinner, even when that can be borne without a single unpleasant sensation succeeding. It is quite enough, and generally too much. The invalid will acquire a degree of strength and firmness, not fulness, of muscle, on this quantity, which will, in time, surprise his friends as well as himself. Such will often derive more nourishment and strength from four ounces of gruel every six hours, than from half a pound of animal food and a pint of wine.

"Whenever our food is followed by inaptitude for mental or corporeal exertion, we are laying the foundation for disease by over-eating. Any discomfort of body, any irritability or despondency of mind, succeeding food and drink, at the distance of an hour, a day, or even two or three days, may be regarded, other evident causes being absent, as a presumptive proof that the quantity has been too much, or the quality injurious. Those who, a few hours after dinner, feel a sense of distension in the stomach and bowels, or any symptoms of indigestion; or languor of body or cloudiness of mind; or have a restless night; or experience a depression of spirits, or irritability of temper next morning, have eaten too much, or some improper kind, and must reduce and simplify till they come to that quantity and quality of food and drink which produce little or no alteration in the feelings, whether of exhilaration immediately after dinner, or of discomfort some time after it. This is the criterion by which the patient must judge for himself."

"I tell you honestly what I think is the cause of the complicated maladies of the human race. It is their gormandizing, and stimulating, and stuffing their digestive organs to excess; thereby producing nervous disorders and irritation."—*Dr. Abernethy*. "It is the opinion of the majority of the most distinguished physicians, that intemperance in diet destroys the bulk of mankind." "Most of all the chronic diseases, the infirmities of old age, and the short period of the lives of Englishmen, are owing to repletion."—*An eminent medical Writer*. "I firmly believe that scarcely any sedentary or literary man can exceed from twelve to sixteen ounces of solid food, and from fourteen to twenty-four of liquid per day, and keep within the bounds of temperance."—*President Hitchcock*.

Agents and tourists among the Indians concur in declaring that they will eat from six to fifteen pounds of meat in the twenty-four hours, spending most of their time in eating when they can get food.

"For a few days, after getting into camp, Indians will eat from eight to ten pounds each, and for the first day or two even exceed that quantity."—*Captain Duval*. "The Osages often eat from ten to fifteen pounds of fresh meat in the course of the twenty-four hours, particularly on returning from a fatiguing hunt, when, I have no doubt, they frequently consume from five to six pounds at a meal."—*Captain Rogers*. "They would consume from six to eight pounds per day. This is under instead of over the true estimate."—*Major Armstrong*. "I have seen a prairie Indian eat and destroy upon his arrival in camp, fifteen pounds of beef in twenty-four hours. I am further of opinion that they will eat daily ten pounds throughout the year."—*Robert Cook*. "The Esquimaux consumption of food is enormous, and often incredible. They eat, perhaps, twenty pounds of flesh and oil daily. Sir W. E. Percy weighed out to a half-grown Esquimaux boy eight pounds of sea-horse flesh, one pound twelve ounces of bread, one pint and a quarter of rich gravy soup, a gallon of water, and six wine-glasses of spirits—a 'quantity no way extraordinary.'"—*John Ross*.

"ADMIRAL SARITCHEFF gave to a Siberian Yakut, who was said to have eaten, in twenty-four hours, 'the hind quarter of a large ox, twenty pounds of fat, and a proportionate quantity of melted butter for his drink,' 'a thick porridge of rice boiled down with three pounds of butter, weighing together twenty-eight pounds; and although the glutton had already breakfasted, yet did he sit down to it with great eagerness, and consume the whole without stirring from the spot.' A good calf, weighing two hundred pounds, 'may serve four or five good Yakuti for a single meal. I have seen three of these gluttons consume a reindeer at a single meal.'"—*Captain Cochran*.

"TEN HOTTENTOTS ate a middling-sized ox, all but the two hind legs, in three days; but they had very little sleep during the time, and had fasted the two preceding days. With them the word is eat or sleep. The three Bosgesmans who accompanied us to our wagons, had a sheep given to them about five in the evening, which they entirely consumed before noon the next day."—*Barrow*.

MY FATHER once knew a glutton who ate two chickens, with the usual accompaniments of bread and sauce, and called for more. A dinner prepared for eight workmen was next brought on, which he despatched, and when he called for more still, bread and a whole cheese were set on. When the landlord reproved him for cutting the cheese in slices instead of in towards the centre, he replied that, "it made no difference, since he calculated to eat the whole;" to avoid which the landlord started on a drove of cattle he was driving, and thus hurried him from his unfinished meal, though he took in his hand a large slice of bread and another of cheese.

MY OWN EXPERIENCE fully confirms these converging testimonials. When so crowded professionally that I am obliged to postpone meals or dismiss customers, I occasionally choose the former, and find that it doubles and trebles my capability to endure mental labor; and have adopted the practice of fasting whenever pressed with business, and preparatory to lecturing, which a preceding supper always greatly mars and enfeebles in matter and manner. I always prepare myself for speaking by abstinence. To write on a full stomach is impossible. Only the abstemious in quantity and quality can appreciate the far greater flow of thoughts, words, and facts, and the enhanced clearness of mind and intensity of feeling thus produced. They may indeed go so far as to prostrate; yet a full meal is as lead tied to the soaring eagle. Shall we fetter the immortal *mind*, by indulging Appetite? Shall propensity blight the godlike powers of the human soul? Gluttony is the great sand-bank of the mind. Abstinence would enhance the progress of our scholars, the mental and moral powers and consequent usefulness of ministers, and the intellectual acumen of all who require mental strength and activity, as well as the feelings, which even suffer most. Over-eating blunts and benumbs all our keener, finer, holier emotions, and curtails enjoyment more universally and effectually than almost any other cause; besides all the untold anguish of body and mind it induces. The extent and magnitude of the evils of intemperance in drinking, though they far exceed even the glowing descriptions of all its opponents combined, fall far below those of excessive eating; because the former are limited to comparatively few, the latter, almost universal, and practised from the cradle to the grave. Mothers begin by nursing their infants every time they cry, though this very crossness is often occasioned by excessive nursing; and still aggravate the evil by stuffing children with pies, cakes, candies, nuts, apples, and the like, from morning till night,

year in and year out ; so that most *grow up* gormands. And this soul-and-body destroying habit “ grows with their growth.”

SOLDIERS are more vigorous and healthy on scant than on full rations. Pugilists are fitted for the bloody ring, and horses for the race, by little food combined with extreme exertion of muscle, which proves that abstinence facilitates labor. In short, all dietetic facts and principles go to establish these two conclusions, that all eat double the quantity of food necessary for the attainment of the highest state of mental and physical vigor and endurance, and that over-eating is the great cause of modern disease and depravity. *Try abstemiousness* : the well, that they may retain and enhance health ; invalids, that they may banish feebleness and maladies, and again enjoy the blessings of health ; the literary, that they may augment mental efficiency ; laborers, that they may increase working ease and capability ; and, above all, the sedentary, that they may ward off the impending evils of confinement within doors. Eat not one mouthful too little, for Nature can cast off surplus food better than supply or endure its deficiency ; but the exact quantity most promotive of strength, talents, and happiness, is incalculably preferable to either too much or too little.

THE DIETETIC PRESCRIPTIONS of homœopathy are most beneficial. Abstemiousness and water, rightly applied, will restore almost all to health, while frequent eating puts back almost all convalescents, and often induces a relapse, which hurries its victim, already renovated by sickness, and prepared for a return of health, into a re-opening grave. Even many convalescents, whom over-eating does not kill outright, are injured by it for life, and loaded anew with disease. Let all heed these warnings, thus frequent and palpable, and learn that to become an epicure one must first become a stoic.

WE MAY ACCUSTOM ourselves to eat less or more, with this difference, that the former leaves the muscles and brain unoppressed and active ; the latter stupefies the whole man, by diverting the energies from all the other organs, and concentrating them in the stomach. The Germans eat heartily, the Spaniards lightly, yet are as healthy as Germans, and do not suffer from want of food, but eat all unperturbed Appetite requires. Those who crave great quantities should deny their Appetites, and need not fear starvation, but should practise temporary self-denial.¹²⁴ “ Self-denial ? ” No ; for eating just enough will increase *present* as well as future gustatory enjoyment. Gormands neither appreciate nor enjoy delicious flavors.

113.—OVER-EATING AND EXCESS OF CARBON A PROLIFIC CAUSE OF DISEASE.

TWO INDISPENSABLE LIFE ENDS are attained by eating—supplying the required organic material,⁹⁰ and creating animal warmth.¹³² This warmth is generated by the carbon furnished by food, combining with the oxygen derived from breathing;⁸² which combine only in a fixed proportion, never more nor less of either than its “fixed equivalent” of the other; so that any excess of either destroys that balance ordained by Nature.⁶¹ We must eat in *proportion* to our breathing, the more or less as we breathe the more or less, or disorder must ensue.

EXCESS OF CARBON, that is, of food over breath, is a most prolific destroyer of health. The number and aggregation of those diseases engendered by this excess are indeed fearful. Northerners usually sicken on going South, because they keep on eating there as freely as here, yet breathe air warmer, and therefore more rarified, and containing less oxygen; which consumes less carbon, and thus leaves that surplus of it which generates Southern fevers, by unduly thickening their blood; whereas diminishing their eating, yet increasing their breathing, would prevent this glut of carbon, and its consequent diseases. All Southern emigrants should eat less there than here, for precisely the same reason that we should and do eat less in summer than winter.

THE SUMMER COMPLAINTS of children and adults are caused by this identical carbonic excess, which Nature thus endeavors to cast out through the bowels. This is conclusively proved by their greater prevalence in warm weather, but diminution as fall furnishes the more oxygen to consume it within, thereby restoring their proportion. If parents would give their children less food in summer, and that less carbonized, less butter, cream, fat, and sweets, many of their darlings which now die would then live.

DYSPEPSIA is consequent mainly on this very carbonic surplus, as is proved by its diminishing with cold weather. All whose health is better in fall and winter than spring and summer, may know that their maladies are occasioned by surplus carbon, or over-eating.

THE CHEMICAL ANALYSIS of the putrid matter of boils, fever-sores, ulcers, diseased lungs, and the like, absolutely demonstrate this truth, by its containing about fifty-four per cent. of carbon. Indeed, most obstructions, irritations, inflammations, and the like, are caused mainly by its excess, and are only the outlets of that surplus carbon

which occasioned them. Hence their beneficial influence.²³ Hence, also, butter, fat, sweets, and other highly carbonated substances, provoke boils and cutaneous eruptions. So do high-living and full feeding.

OVER-EATING is thus demonstrated to be one of the most prolific of all causes of sickness. Unwholesome kinds of food engender far less disease, especially of the stomach, than excess in its *amount*. Gormandizing plain food injures many times more than unwholesome kinds. Health and disease depend far more upon how *much* we eat, than what. The majority of men make gluttons of themselves. How rapidly one platter full disappears after another from public and private tables? Note how fast and often plates are filled and emptied, and returned for more. Nearly all eat twice too much, or at least till they feel stupid, uncomfortable, and inert. Those eat too much who feel the lighter and livelier for omitting a meal. Dyspeptics eat as much again as others, while those in perfect health usually eat but little. The bully of the Erie Canal, in 1837, and of course the strongest, spryest, and toughest man on it, ate less by half than the average of his passengers. A man employed in a comb factory in Newbury, Mass., who has always enjoyed the very best of health, is surprisingly abstemious. Most who live to be aged, usually eat but little, and hence their longevity. Men of great talents and virtues usually practise rigid abstinence. Wesley furnished a noted example. See what he did and endured, yet how little he ate, and how often he fasted! Bible recommendations and requisitions for fasting are undoubtedly founded on this fact.

FLESHY persons usually eat lightly, while spare, the world over, are generally great eaters; because, what the former do eat, they completely digest, extracting from it all its sustaining virtue, so that they need but little. Many gormands disorder their stomachs, so that the enormous quantities they consume are not converted into nourishment. A little food, well assimilated, yields far more nutrition and life than quantities crudely digested. In fact, gluttony doubly starves its subjects; first, by enfeebling and disordering digestion, so that it cannot extract the nourishment from food, and secondly, by a gnawing, hankering, craving state of the stomach, akin to starvation.¹²⁴

SECTION V.

THE DIGESTIVE PROCESS, ITS ORGANS, PROMOTION, ETC.

114.—STRUCTURE AND OFFICE OF THE STOMACH.

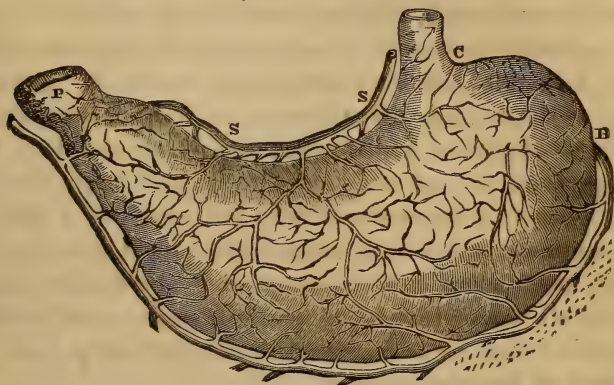
THE DIGESTIVE PROCESS is one of the most wonderful operations in Nature. Its results are indeed amazing! Behold your dinner, now an inert mass of bread, meat, and vegetables, but soon after it is eaten, sent by this function coursing throughout your whole system, mounting to your brain, and consumed in working, thinking, speaking, adoring God, loving family, enjoying, and all your other mental and physical operations! And all accomplished by digestion. Whether it or breathing is the most important is difficult to determine, for both are indispensable. How soon that horse drops down and dies when the bot-worm eats through into his digestive apparatus! And how suddenly fatal its paralysis by drinking cold water! How fearful are the ravages of cholera consequent on its collapse! How rapidly children seized with bowel complaints fall away and die! How effectually indigestion palsies physical and mental energy, and how indispensable is digestive vigor to efficiency of body and mind!

SOME RECEPTACLE must be prearranged for this process, capable of holding fluids; because nutrition can be conveyed where it is wanted only in a liquid state. This receptacle must therefore be spherical or tubular. This nutrition must also be assorted, which requires considerable space and length; and have a great amount of surface.

THE STOMACH AND INTESTINES supply all these requirements, and accomplish all these ends. The folding of the latter allows a great amount of function to be executed in a small space, which is increased by their being ruffled, and shorter on one edge, and thus convoluted, as seen in engraving No. 102.

IT IS A SACK capable of holding from a quart to several gallons, according as it has been more or less distended by excess or deficiency of food and drink. Its upper side is much shorter than its lower, thus appearing like a bag held horizontally, and ruffled on its upper edge. It has two openings, the one where the food enters, located at its left upper side, and called the cardiac orifice, from its proximity to the heart; and the other, situated at the right superior side, named the pyloric orifice, through which the food, after having undergone the chymifying or solving process, makes its egress into

the duodenum, or second stomach. This orifice is constructed with a valve, so arranged as to close upon and send back whatever presents itself for egress not completely dissolved ; and it departs from this rule in extreme cases only, where things cannot be digested without remaining in the stomach so long as seriously to threaten its injury. Hence the ejection of food either way, undigested or much as it was eaten, is a sure index of a deranged stomach, because a vigorous one would first dissolve whatever is soluble.



No. 102.—THE STOMACH, AND ITS ORIFICES, BLOOD-VESSELS, ETC.

- C. The cardiac orifice through which the food enters.
 P. The pyloric orifice through which the chyme passes out.
 S.S. The coronal artery of the stomach.
 Another artery is seen passing under the stomach, and those lines seen to pass in all directions are ramifications of blood-vessels.

IN STRUCTURE, like all the other internal organs, it is composed of three membranes ; an outer, called the peritoneum, or glossy coat, which lines and lubricates all, and allows them to slide upon each other without friction, the absence of which causes adhesions ; the middle, which is composed of muscles laid transversely, and crossing each other in all directions, which contract upon its contents, so as to give them a rotary motion ; and the inner, or mucous membrane, which is extremely delicate, and when healthy, of a pale cream color. Nerves and blood-vessels also permeate all its parts, as seen in engraving No. 102, the latter imparting vitality, and the former creating pain when it is diseased and oppressed, and interlacing all the states of the stomach with the whole nervous system,³⁷ brain, and mind.

THIS MUCOUS MEMBRANE, or some glandular structure interwoven with it, when a healthy stomach receives its food, empties into it a

clear, slightly acid, but almost tasteless fluid, called the *gastric juice*, quite like saliva in appearance, previously secreted, so as to be in readiness.

THE GASTRIC JUICE is a most powerful solvent, capable of reducing to a milky homogeneous mass, called chyme, all those heterogeneous substances taken as food. It, as it were, sets free or extracts the carbon, fibrine, caseine, nitrogen, hydrogen, etc., electricity included, which compose food and support life. It even dissolves food out of the stomach, though not as quickly as in.

THE SOLVENT POWERS of a healthy stomach are most astonishing. An East India bird swallows and digests even wood. Man's solvent powers, by Nature, far exceed what we imagine possible. Some have swallowed knives, and digested their bone and horn handles. Felines, serpents, etc., eat and digest their prey, bones, fur, and all. How surprisingly some stomachs bear up, sometimes a century, under the continued abuse daily heaped upon them, even by the most temperate, much more by the intemperate! How often and outrageously do all abuse it by eating too fast, or too much, or unwholesome kinds of food, or taking alcoholic or narcotic poisons, and yet retain much of its pristine vigor!

ALL ABUSE, however, proportionally weakens its solvent powers, which causes its contents to lie so long in the stomach that its heat induces souring or fermentation, which aids its dissolution, and helps to relieve the stomach of its load. Yet this is incipient decomposition, or, to call it by its true name, the commencement of the *rotting* process. To ferment is to *putrefy*. Nor is it possible for food to sour in the stomach without engendering corruption. Especially is this true of the fermentation of meat. All know how vast the amount of putrefaction eliminated by its decay out of the stomach. Fermentation engenders the same in it. Is it, then, any wonder that the rotting of meat in the stomach should cause its victims to feel so wretchedly? Is not here a powerful argument against meat-eating, especially when the stomach is not *perfectly* good? Meat actually putrefying in the centre of the system, to be sent all through it, is literally frightful to contemplate! And yet this very process is perpetually going on, in a greater or less degree, within the stomachs of all afflicted by dyspepsia; and this class embraces the mass of Americans. This chemical fact, that the souring process is incipient rotting, together with the fact that the food of the great mass of our nation does thus ferment, develops the prolific cause of most of those

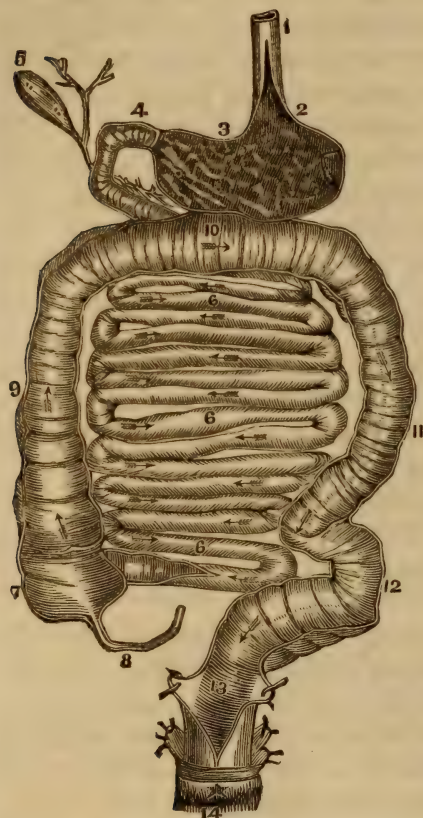
chronic, malignant, and all other diseases which bring suffering and premature death on the mass of mankind. Men cannot, therefore, guard too carefully against all injury of this important organ. Its healthy and vigorous condition is indispensable to life and happiness. Its abuse is suffering and death. As starvation, by withholding nutrition, soon destroys life, so imperfect digestion proportionally impairs it. Dyspepsia is partial starvation on the one hand, by withholding the materials of life, and death on the other, by engendering corruption. Hence, whatever dyspeptics do or leave undone, they should first restore the flagging energies of their stomachs. The scholar who is impairing digestion by study, is undisciplining instead of disciplining his mind, in the most effectual manner possible, and by that very study which otherwise would strengthen it; because stomachic diseases effectually prostrate the brain. Such should stop studying till they have effected a cure. Those whose stomachs are strong should keep them so, and, weak or disordered, give up or abstain from whatever impairs them.

THE OUTSIDE of the food eaten only is solved, thus evolving nourishment *gradually*—a provision of great practical utility. Otherwise we should be obliged to eat perpetually; which would be inconvenient, if not impossible.

THE MOTION of the stomach greatly facilitates digestion. Its muscular coating, by contracting from all points upon the food, as it were *churns* it till it is dissolved. As the muscles of the gizzard of fowls contract upon their food so powerfully as to grind it by friction against the gravel stones mixed up with it; so the muscles of the human stomach keep perpetually squeezing and whirling the food over and over, always one way. This motion all must have observed within themselves. In cases of heartburn, which is caused by the souring process, this rolling of the food is particularly observable, in conjunction with the rising and burning caused by the inflammation of the stomach.

THIS MOTION IS INVOLUNTARY, else we should be obliged to *will* it continually, which would be exceedingly inconvenient, as it must be perpetual, so that we could do little else. Breathing also greatly facilitates it. Every inspiration hauls down the stomach to make room for the ingress of air,⁸¹ and every expiration redoubles this motion by allowing it to return to its place; and as breathing is perpetual, so is this stomachic motion. Unless it had been very important, Nature would never have devised so effectual a means of securing

it; and those who arrest it by tight lacing, always do so at their peril.



No. 103.—THE DIGESTIVE TUBE, AFTER CLOQUET.

1. Œsophagus laid open.
2. Showing its cardiac orifice into the stomach.
3. Interior of the stomach, with its rugæ.
4. Duodenum, or second stomach, commencing at the pylorus.
5. Gall bladder, with the cystic duct, which passes downward to open into the duodenum.
- 6, 6, 6. Small intestines, terminating in the cæcum.
- 7, 8. Appendicula vermiformis.
9. Right ascending colon.
10. Transverse arch of the colon, seat of colicky pains.
11. Left descending colon.
12. Sigmoid flexure.
13. Rectum.
14. Anus.

The arrows point the way the food passes.

ABDOMINAL MUSCLES, which pass up and down across the stomach and bowels, still further facilitate this motion. Indeed, we cannot well move the body backwards, forwards, sideways, or any other way, without using them, and thus, as it were, kneading the stomach. Probably it rolls its contents the way all water turns when running out of a tunnel, namely, from left to right. Rivers roll the same way, as is proved by the fact that the mouths of all streams which empty from the right side are narrow, and have a hollow gouged out, because the water is *rolled under* the moment it strikes the main stream; while the mouths of all streams which empty in on the left bank are always broad, but shallow, and usually have a bar at their mouth.

THE EARTH, in passing around the sun, and the moon around the earth, roll the same way which water rolls in running—all doubtless in accordance with that great law that motion rotates. Probably the blood in both the arteries and veins rotate in the same way.

MODERATE EXERCISE promotes digestion, by promoting this motion. While violent

exercise robs digestion to help the muscles, exercising leisurely helps push the food along down the alimentary canal. Two dogs, fed alike, and killed two and a half hours after, in the one put upon the chase, digestion had hardly commenced, while in the other, which was allowed to lie around, it was nearly completed. This proves only that *hard*, but not *leisurely*, work after eating retards digestion. Children never take noonings, but are generally the most lively after eating—never more stupid. Lethargy and indolence are sure signs of over-eating.¹¹² Those who cannot work, study, and do anything better after their meals than before, have over-eaten. Food, like sleep, invigorates from the first mouthful. Normal functions always promote, never obstruct each other.

115.—THE LIVER AND PANCREAS ; THEIR STRUCTURE AND FUNCTIONS.

THAT LARGEST GLAND, situated mostly within the right side of the body proper, about half way between the shoulders and hips, is the liver. Its extreme length varies from nine to twelve inches, and its thickness from a thin edge to about six inches. It weighs about four pounds, yet its dimensions vary greatly in different persons. It has two lobes, the right being some four times larger than the left, and two coats, its outer, called peritoneal, which invests most of it, and from which its five ligaments are derived, and the inner or fibrous. It is reddish brown.

A MENTAL FACULTY renders its action absolute ;⁷⁵ and its organ is located near but behind the bifurcation of the optic nerve, adjoining Appetite and Bibation, but further forward, so as to fill out the lower frontal portion of the temples, behind Tune. When it is large it fills out the head below Construction, as in Brigham Young, yet it is deficient in Lincoln. Large, puffed up veins, running up and down, along the fore part of the forehead, signify an obstructed liver and dyspeptic tendencies, and the converse. It, and each of the other physical functions, can undoubtedly be quickened by animal magnetism.⁴⁴

ITS STRUCTURE is cellular, quite like that of the blood cells of the lungs. Its arteries and veins are remarkable for their number and size ; the arteries bifurcating, as in the lungs, till they become infinitesimally minute, when they emerge into piles of granules, having cells, in which its function, the extraction of a yellowish biliary matter, is performed. These cells empty this bile into ducts, larger and lar-

ger, till all become one duct, which empties into the gall bladder, and this into the duodenum.

THIS BILE is yellow, but becomes green by exposure. It acts upon the fatty matter of the duodenum, which it renders soluble and fluid, and helps convert chyme into chyle. A part of it also enters the bowels, stimulates their evacuations, and relieves the blood of its superfluous hydrocarbon, out of which bile is in part formed. The gall is secreted from the dark or venous blood while returning back to the heart, about eight pounds flowing through the liver per minute. This bile is composed mainly of carbon, and this is one of the means by which the system relieves itself of surplus carbon.¹¹³ Hence, those whose livers are weak should avoid fat, and eat substances less highly carbonized, so that they may have less carbon to secrete, besides eating less. Animal food taxes the liver somewhat less than vegetable.

SODA is also secreted from the venous blood, and contained in the bile, and, being required in the vital process, is taken up by the liver, and returned into the circulation, to take part in respiration—a most ingenious contrivance for supplying the system with the soda it requires.

THE PANCREAS, or sweet-bread, is glandular, flattened, about six inches long, tapering, located nearly under the stomach, and formed of lobes, lobules, granules, and sacs, which secrete a fluid almost identical with saliva, and empty it into small ducts forming one canal, which empties into the duodenum.

THESE TWO FLUIDS, the biliary and pancreatic, commingling with the chyme, separate its nutritious from its innutritious portions, somewhat as rennet assorts the whey and curd of milk from each other; forming chyle, a half-liquid, grayish substance, closely resembling milk in appearance, laden with fibrine, carbon, nitrogen, oil, and other substances required to support life. In fact, its composition is almost identical with that of blood, requiring only contact with air and oxygen to impart its red color, and make it into blood proper. The importance of these two glandular secretions, shows how absolutely indispensable health of function in each is to human life, and the consequent evils of their abuse, and importance of their restoration.

THE CHYLE, thus separated in the duodenum from the refuse portions of the food, is urged along into and through the intestines by that muscular or middle coating which surrounds the entire alimentary canal, arranged circularly and transversely, so that its action rolls its contents along irresistibly.

THE BOWELS complete this digestive process by assorting and ex-

tracting the nutritive from the excrementitious or refuse portion of food. Like the other visceral organs they undoubtedly have their mental Faculties, cerebral organs, located near Appetite, and facial pole, the latter situated in the jowls. Fulness in the lower and back portion of the cheeks, between the ears and chin, signifies bowel vigor.

LARGE.—Are very fleshy, round-favored, and fat, and eliminate food material faster than it is consumed, besides sleeping well, and enjoying ease and comfort, and do only what must be done.

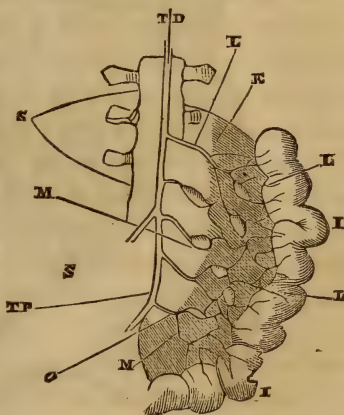
AVERAGE.—Have a good, fair share of flesh, and abdominal fulness, and appropriate about as much food as the system requires.

MODERATE.—Are rather slim, poor in flesh, and gaunt; may digest food well, but sluggish bowels and mesenteries fail to take up and empty into the circulation enough to fully sustain the life-functions, and have hence strong tendencies to constipation.

SMALL.—Are very slim, poor, dormant, weak, and dyspeptic.

To RESTRAIN.—Breathe deeply, work hard, sleep little, and eat lightly.

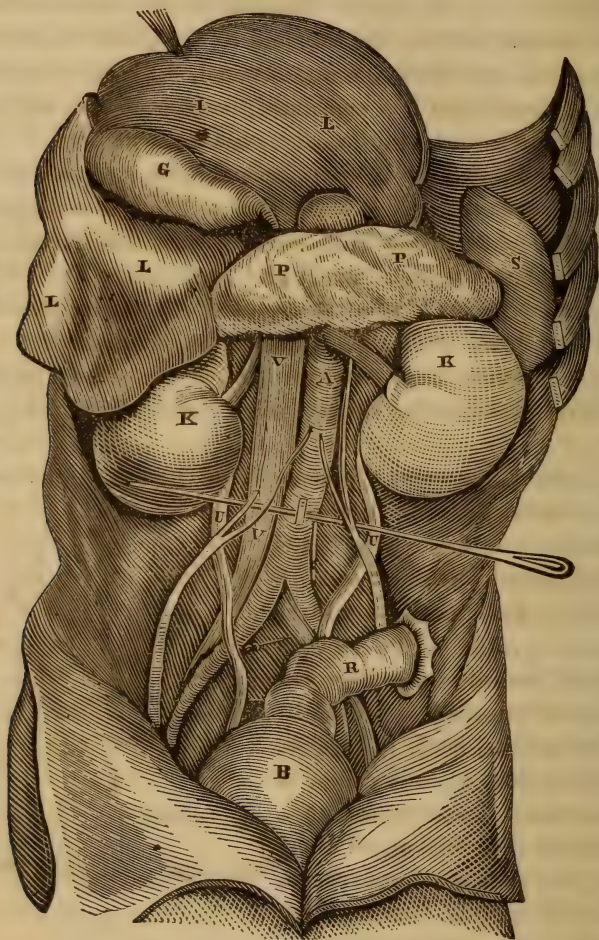
THIS ALIMENTARY CANAL is some six or eight times as long as its possessor is tall, and into it open a vast multitude of little mouths or suckers, which, called lacteal vessels, or chyle-drinkers, pass through the three coatings, and open upon the mucous membrane of the intestines, these being in a great number of folds, by which the surface, and, of course, power of function, of this canal, is greatly increased. These lacteals suck up the chyle as it is thus urged along over them, and passing backward behind the intestines, and then through innumerable little glands called the mesenteries, empty themselves into larger, and these into still larger ducts, till they form one duct which passes up along inside the back-bone to near the neck, where it empties its contents into the right sub-clavian vein, nearly under the right clavicle, or collar-bone; while the residuum, or waste portions of the food, are expelled along through the small intes-



No. 104.—INTESTINES, LACTEALS, AND MESENTERY GLANDS.

- T. D. T. D. The chyle duct.
- L. Lacteals.
- M. G. Mesentery glands.
- S. Spinal column.
- F. Folds of the intestines.

tines into the ascending colon, pass up on the right side of the abdomen into the transverse colon, which runs along under the stomach, and thence into the descending colon, then down the left side into and



No. 105.—LIVER, GALL, PANCREAS, KIDNEYS.

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| L. The liver turned up to show its under side. | A. The descending aorta. |
| G. Gall-bladder. | V. V. The ascending vena cava, which carries venous blood to the liver. |
| P. The pancreas. | R. The rectum. |
| K. The kidneys. | B. The Bladder. |
| S. The spleen. | |

out through the rectum. Intestinal inflammation, as in dysentery, cholera etc., sometimes draws blood into the bowels through these lacteals, which often weakens or kills suddenly.

THE SPLEEN is a large gland situated to the left of the pancreas,

connected with the stomach, in structure resembling the liver, and contains lymph, yet its exact function is unknown. Behold these means for turning food into blood, and sustaining life!

116.—DYSPEPSIA : ITS EVILS, CAUSES, AND CURE.

DYSPEPSIA probably creates more diseases than any other cause. Though it rarely terminates fatally, yet it parents many diseases which are fatal.

IT CONSISTS in either irritation, or acidity, or dormancy of the stomach, liver, and bowels; and many ailments attributed to the liver are consequent on its sympathizing with a deranged stomach, while constipation, with all its evils, is its offspring.

THE AMOUNT OF CORRUPTION it engenders is almost incredible. It allows the food to lie so long in the stomach, that it ferments, or *decays*, within it, and all know how much foul matter the rotting process evolves; especially that of meat. ^{106 113}

THAT FOUL BREATH which always accompanies it is but its measure in its expulsion; and it is as obnoxious to life as it is loathsome. How soon breathing it all would sicken you; and yet you would inspire only what they expire. The vast amount expired every hour is by no means all they manufacture. All the evacuations put together cannot unload it as fast as fermentation engenders it, and hence it gathers on the lungs and brain in the form of phlegm, which oppresses and irritates both, and creates consumption, fevers, and all sorts of complaints. Dyspeptics expectorate most while suffering from indigestion, because the salivary glands are closely interrelated with the stomach, and hence its consequent mucus. All bad-tasting phlegm should therefore always be *spit out*, never swallowed; yet sweet-tasted spittle should be swallowed.

MENTAL WORRYMENT is its main cause. An overworked or worried *mind* has exhausted the energies of the brain, which has gone out on a foraging expedition in quest of vital force. It finds it in the stomach, and remorselessly appropriates to brain sustenance that needed for digestion, thus leaving the food so long undigested that it sours. Of course, eating fast, irregularly, wrong kinds of food, etc., aggravate it, as do all wrong habits.

A BUSINESS MAN, you have launched out so largely that debts and debtors, credits and creditors, give you a world of trouble. You lie awake nights, thinking how you can work through this dilemma. You snatch meals and lunches, work early and late, rush here, there, every-

where, are more snappish than the snapping-turtle, grasp at this and that, and read the papers, eat, sleep, do business, everything by *steam*.

SHUTTING OFF this steam is your first means of cure. Do anything, everything, without this, and it gripes on still. *Stop short*, and sober down. Get out of this eternal stew. Take a daily dose of the play-spell cure.²⁰⁰ Give yourself plenty of time to eat, sleep, and rest out. Do the best you can without worrying, but fret not thyself for anybody or anything. This removes its cause, and will soon remove itself.

A BROKEN-SPIRITED WOMAN, confined by family cares, you lost your darling child, husband, or mother, and keep nursing your grief; or your marriage has completely disappointed you. Where you expected so much, you find a great deal worse than nothing. You sip on patiently of your embittered cup till Nature gives out. Your bad, sad, disappointed feelings kill Appetite, kill your interest in life,⁷⁶ and everything but your love of that child, which is one ceaseless round of worriment. Your brain and nerves naturally become fevered, *must* have vital force, rob your stomach, and breed dyspepsia.

THE NERVOUS SYSTEM AND BRAIN of dyspeptics suffer most. The corruption and rank poison it engenders cannot but lash up both to abnormal, and therefore painful action. Dyspeptics always feel irresolute, gloomy, and wretched, in proportion as their disease is aggravated, however favorable for enjoyment all their external circumstances. Disdain the fortune of an ASTOR if indigestion must accompany it. Dyspeptics, however wealthy, respected, beloved, or otherwise capacitated for enjoyment, are poor, miserable creatures—poor, because they cannot enjoy, however much they may possess of the bounties of nature; and miserable, because this disease turns even their facilities for happiness into occasions of pain. They would go mourning even in paradise.

SOME OUTRAGE of the health laws has induced it. Probably fast eating is one great cause; yet even this is only another phase of that *mental* anxiety in which dyspepsia chiefly originates. Mental hurry and flurry both rush you pell mell to meals, which they bolt, only to rush you away on the keen run after this or that; thus both leaving the food unchewed, and, of course, unsalivated, and then working up in other directions the vital force demanded for digestion.

CONFINEMENT in-doors, and in a sitting posture, thus leaving the bowels inert, is another frequent cause. Perhaps something you eat or drink, or do, or don't eat or do, causes it. At all events, hunt all

around, and keep on hunting, till accumulated evidence assures you that you have finally ascertained and spotted the identical cause, or causes, for there are probably several.

THESE SIGNS show whether your complaints are caused by indigestion. It generally emaciates. Those who are perpetually growing more and more thin-favored, and specially sinking in at the abdomen and cheeks, may know that this disease is approaching; as may also all who feel a gnawing, sunken, fainting, "gone" sensation at the stomach; or are unable to postpone their meals without inconvenience; or who feel a ravenous appetite, and still continue to crave after they have eaten freely; or who feel prostrated, inefficient, listless, misanthropic, or irritable, hating, hateful, and fretful; or who belch up wind frequently—it being a gas formed in the stomach by the souring of their food. Dyspeptics are perpetually cramming, yet virtually starving, because their stomachs do not extract from food its nutrition, and, paradoxical as it may seem, the more they eat the more they starve.

Besides being hollow-cheeked, and lank in the abdomen, they are generally costive. This is occasioned by the sluggishness of the stomach and bowels; so that the removal of this single symptom, or effect of this disease, will generally obviate this disease itself.

THE CURE OF DYSPEPSIA.

OBVIATE ITS CAUSES. If it is consequent on over-work, of course work less; if on over-eating, eat but little; if on drinks, stop them; if on over-working only one set of organs, as the brain or muscles, change the action; or if on any extreme, go to its opposite. Probably one or another of the following cures will restore you, gradually if not rapidly.

ACIDITY of the stomach, caused by souring of the food, also generally accompanies and indicates dyspepsia.

ACIDITY can often be counteracted by neutralizing it with other acids. Alkalies will sometimes do this. Oyster shells, baked and powdered, often neutralize the acids of the stomach, as is evinced by the wind they bring up, and often do at least temporary good. Weak ley, made from wood ashes, has a kindred effect.

SOME ACIDS decompose other acids, and hence some stomachic acidities may be cured by taking the right kinds of acids. Yet those found in fruits are far preferable for this purpose. Hence lemons often improve the tone of the stomach; and when they do, should be

eaten freely before meals, or in food. Hence, also, very sour lemonade is often highly beneficial for dyspeptics, and should be drunk, not in gills, but by the pint, in case it produces a comfortable feeling in the stomach. Chemistry will yet discover a means of detecting the kind of acid in the stomach, and, of course, some kind of food or medicine which will effectually neutralize it—an application of animal chemistry of great practical importance, and which some of us will undoubtedly live to see made. There are effectual antidotes in Nature, and especially in food, exactly adapted to remove every species of stomachic disorder, by neutralizing or carrying off the noxious compound. In fact, science will yet discover particular kinds of food which will effectually counteract every and all disordered states of the whole body. Thus that rank poison, corrosive sublimate, can be at once neutralized by eating soap freely, or swallowing any alkali in large quantities. The poisonous virus infused into the system by the bites of mad dogs and poisonous snakes, can be effectually neutralized by taking certain chemical agents, of which vinegar is one. Mankind will yet discover some such antidote for every sort of morbid matter, obstruction, and disease incident to the body. This neutralizing principle is especially recommended to the scientific researches of chemists, and the practical experiments of all.

A LIGHT DIET, when the appetite is craving, is absolutely indispensable. There is no salvation without it. Full feeding will effectually counteract all these and other remedial prescriptions, and even re-induce dyspepsia after it is cured, and of course aggravate it, and retard its cure. Make up your minds to *starve it out*, or else to suffer all its miseries, and shorten your days. Abstinence is the great panacea. All else only aids, but does not reach its ROOT. *Eating less and breathing more* will soon discharge that surplus carbon in which it consists. Nothing equals them as a cure-all. Fresh air, in large and perpetual doses, is by far the most effectual specific for dyspeptics and consumptives extant. In short, let them follow the prescriptions of this work as to the selection, mastication, quantity, and digestion of food, and touching circulation, respiration, perspiration, sleep, exercise, etc., in addition to these specific prescriptions, and they will soon be cured.

THIS ABSTINENCE cure, however, has this important qualification. Inflammation of the stomach is the first stage of dyspepsia, and creates this ravenous hankering which abstemiousness counteracts.¹²⁴ But years of inflammation and hankering often partially paralyze

it, which of course deadens Appetite in proportion, so that it becomes extremely dainty, and even loathes food. Or it is inflamed and paralyzed, greedy and dainty, *by turns*. Its inflamed state is by far the best, for it signifies more remaining life.²³ Nausea is much worse and harder to cure than greed, and requires the opposite treatment, namely, pampering and indulging. The dietetic rule for dyspeptics is this: *Pamper* Appetite when it is dainty, by coaxing it up, and trying to get up a relish, but deny it when it is ravenous.

RIGHT EATING is its specific antidote, as wrong eating was its cause. All punishments follow in the direct *line* of the law broken.²² This proves that wrong eating caused it—perhaps eating calomel—and this that right eating, or re-obeying these laws, must cure it. Something appertaining to food is unmistakably specifically adapted to stomachic restoration. Does not this stand to reason?

AVOID WHAT CAUSES PAIN. Notice what hurts you, and discontinue it. Soured bread is especially detrimental.¹⁰⁶ If you feel that a given thing will go to the right spot, give it a trial.⁹³ You will find something which will neutralize its corruption; for all ailments have their antidotes, and those of dyspepsia are dietetic.

117.—CONSTIPATION AND LOOSENESS; THEIR EVILS AND REMEDIES.

BOWEL DORMANCY is worse even than is generally supposed, and impedes all the mental and physical functions; so that to obviate it should be a paramount object of all it afflicts. It usually accompanies, and indeed causes most chronic complaints, which its obviation will generally cure. It especially impedes brain action, besides greatly aggravating melancholy.

LADIES suffer oftenest, and most seriously from it; whereas they more especially require peristaltic regularity. They justly set a high value on good looks; yet none who are constipated can possibly look well, however elegant their toilet. It often induces other visceral ailments, which every woman should by all means avoid.⁶⁶⁰ Bowel freedom also carries off other diseases, which would otherwise cause sickness; for Nature often uses them to unload the system of waste and poisonous matter which would otherwise clog it, and even endanger life. As long as they remain "all right," your chances for life and health continue good; while their constipation often forebodes gathering ailments really portentous of evil. Those whom it afflicts should inquire what physiological laws they are habitually breaking to cause it.

NO MEDICINES can cure it. Cathartics may move the bowels for the time being, only to constipate them still worse afterwards; and the more one takes the worse he is. All experiences of all will confirm this. None can afford to purchase relief to-day by redoubling the same difficulty ever afterwards. What you require is *permanent* relief, not temporary.

CURE BY FOOD. Some kinds of food are naturally aperient, while other kinds bind. Eat the former, but avoid the latter. Most kinds of fruits, and particularly grapes, eaten with their skins, open the bowels, while the bran part of most grains produces a like effect. Wheat, boiled or cracked, or coarse ground, but *unbolted*, and made into puddings, bread, etc., is one of the best of aperients. Rye, in its various forms, has a like effect. Rhubarb, both root and stem, are noted for producing this effect; so are peaches, figs, plums, green corn, onions, etc. A pudding made by stirring unbolted rye flour into boiling water, eaten with molasses, sugar, milk, or fruit sauce, will be found most excellent. So will Indian and oatmeal puddings, eaten with molasses. In short, all will know some kinds of diet which open their bowels, of which they should partake when constipated. And the special advantages of these kinds of food are that they tend to *keep up* this action for days afterwards. Beyond all question, the true loosening means is *food*, not medicines. Teas, the decoction of herbs, of course belong to this class, of which thoroughwort, wormwood, catnip, smartweed, etc., furnish examples. Probably requiring "bitter herbs" to be eaten with "the passover," was based on this law; especially since it was appointed in the spring, when the bowels most need relaxing.

THEIR DAILY EVACUATION is another sure means of obtaining permanent relief. Periodicity is important in *all* the physical functions, this included. They are naturally constituted to move once per day.⁹⁵ None should allow any day to pass without attending to this function. Mothers should early train their children to be regular, and especially see that their growing daughters on no account neglect it. Shame sometimes dictates its suppression; yet as well be ashamed to breathe. An extra squeamish young lady once induced "St. Vitus' dance" by suppressing this intense desire during a party sleighride and supper of young people. Any voluntary suppression of involuntary desires causes St. Vitus' dance. Neglect of this function often induces prolapsus of the bowels and viscera, which this daily attention would avert.

A SET TIME each day should be selected. As when we habituate ourselves to eat or retire at a given time, we feel hungry or sleepy when that hour comes, however intent on the thing in hand; so, waiting on this function at a specified time daily, will soon create this monition at this time, though too busy to think of it without. If you effect no passage to-day, try again to-morrow at the same hour, and again the next, and every day, till your body falls into this habit.²⁰⁰ If this takes time, give time, for you are accomplishing a great life work. And the more difficult its establishment, the more you need it.

RUBBING AND KNEADING THE BOWELS is another aperient, and cure of dyspepsia. The stomach often solves its food, and the bowels discharge it, without its nutrition being *absorbed* by the lacteals, see engraving 104, or emptied into the blood. The system is thus exhausted by its digestion, without being nourished by it. This first part of digestion without this last, is nugatory, both being equally important. Weak lacteals weaken equally with a weak stomach or liver. Medicines affect them but little, and only injuriously. If you are thin in flesh, this is the probable cause. How can these lacteals be quickened?

BY BOWEL MANIPULATION. This MECHANICAL bowel motion will naturally promote their functional action. In 1833, while in college, a previous graduate came around to cure dyspepsia, the chief college ailment, swore his patients to secrecy, charged five dollars, and cured them all, solely by this bowel manipulation; probably copied from the French custom of women, who make it their "profession" to visit ladies at their houses for this purpose, just as hairdressers do to dress their heads. Pardon a personal illustration.

AFTER PREACHING this manipulating cure over twenty years, a friend insisted on button-holing me to his clairvoyant physician, who said my stomach *digested* its food well enough, but that many of my lacteals were closed, and the others sluggish, so that but little chyle, though abundant and good, reached the blood. This showed that manipulation was precisely what my system then required, and I applied it briskly on retiring and rising, for a week or so; when I found myself just as antic as a colt, light-footed, able and disposed to walk off a dozen miles "just for fun," light-hearted, clear-headed, warm-blooded, and ecstatically happy. What had mysteriously caused this marked change for good? This manipulation, which can rarely ever be practised without like results. It always warms

the hands and feet, obviously by introducing more carbon into the system, and produces buoyancy by giving it more materials to work with. For a like reason it redoubles all the other physical, and also all the mental operations.

OLD TIME physicians frequently prescribed rubbing the feet, spine, and other parts for various ailments, with marked benefit. Then why is not friction of the bowels as much more useful as their action is the more essential?

IT MAY BE PERFORMED by the patient, or by some one else. If the former, double up the fists and strike the abdomen in quick succession, or else pat them successively with the open palms of both hands; or, bending the hands and fingers forward, strike it with the ends of the fingers made rigid; or, placing the thumbs on the hips, reach the fingers forward towards the middle of the abdomen, and knead or work it with their extremities, or rub them upward while bearing on strongly, and down lightly; by punching, pushing, and working them in all ways and directions quite briskly, but much more with the upward motion than downward; for they should always be raised or pressed upwards, but never downwards.

The more healthy the manipulator, the greater the benefit received; which opposite sexes redoubles.

FOR COSTIVENESS, HEAT, OR PAIN in the bowels, wear a wet towel on them, nights, and days too, for that matter. This will take out that feverish heat or inflammation which causes it, and benefits you more than you think possible till you have tried it.

118.—BOWEL PROLAPSUS, ABDOMINAL SUPPORTERS, DIARRHŒA, OPIATES, ETC.

THE BOWELS OFTEN FALL into a heap at the bottom of the pelvic basin, or unduly sink in above, but protrude below the navel; whereas they should round up from all sides to it, so that it will point straight forward; but when they fall, it points *obliquely* upwards.

THIS SINKING lets the stomach and lungs settle, because their support has settled; which leaves them *hanging* from their fastenings at the throat. This irritates them, which produces a cough, which rekindles the bronchial tubes, and finally the lungs, and thus often causes consumption; the doctors meanwhile doctoring away at their *lungs*, while the seat of their disease is in the bowels, which must be cured before this consumption can be cured; for, if arrested to-day,

it would return to-morrow, because that hanging which causes it continues. They must be *held up*. How?

NOT BY TRUSSES, abdominal supporters, and all that, because they necessarily impede that *circulation* which alone imparts health and vigor. Few who use them ever think they are beneficial. They irritate and injure almost always, and necessarily.

A SUSPENDING SACK can, however, be made in and by means of the drawers, so as to hold them up, and rest their weight on the *hips*, by a band passing over the points of the hips, and tying or buttoning behind. And, in general, the pants, drawers, skirts, etc., should depend from the hips instead of by suspenders over the shoulders, but on no account by any band around the waist; because this bears *down* on the bowels, and displaces, and therefore inflames them; whereas, this sack, passing down *under* them, then raising them up and carrying their weight upon the hips, has an effect the converse of that produced by a band *above* them.

This sack should be adjusted to the bowels of each by strings or buttons, before or behind,—before is probably the best,—so as to stow them away in it when it is buttoned up. Those whose bowels are large, or protrude, will find such a sack to afford surprising relief and immediate benefit.

EXTRA FAT bowels are often consequent on a good stomach with poor lacteals. They digest enough, but the lacteals fail to absorb it from the intestines, and Nature, to get partly rid of it, turns it into fat.⁶⁵ Females will find a kindred cause, especially applicable to them, in “Sexual Science.”⁶⁸³⁻⁶⁸⁴

PEACH PITS allowed to remain in the mouth, and chewed gradually, or pounded, or ground, and covered with spirits for a few days, and a teaspoonful taken at a time, an hour before eating, will tone up and raise the bowels, and are almost a specific for uterine prolapsus.

DIARRHŒA has its causes, uses, and cure. It often casts out humors, and unloads the system. Thus, suppose a sour stomach, or closed pores, or other suppressions, are perpetually filling it with disease, loose bowels cast it out sometimes as fast as it accumulates; thus allowing more work and better with them loose than close. Their freedom *benefits* whenever it does not prostrate. When you have caught a cold, or feel bad from any cause, and are constipated, expect relief soon after they begin to move; and, in general, hail their aperient state as your savior when it does not extend to prostration. This is doubly true of some females.⁶⁸³

LOOSENESS of the intestines, however, when it goes so far as to prostrate, is most injurious. Summer complaints carry off more children than all other diseases combined. It urges the nutrition along too fast to allow its absorption, and is often accompanied with griping pains as severe as afflict mankind. Cholera is but its most aggravated form. Instead of the nutrition being taken up and emptied into the blood, *reversed* bowel action casts the blood through the lacteals into the intestines, and then out. This reversal makes short work of life itself, and all excessive looseness causes a most painful sinking, prostration, and goneness.

OPIATES are usually prescribed in such cases, but with only evil. They may deaden the pain by stupefying the bowels; but they leave the original difficulty worse than they found it; because they paralyze that vital force which is struggling against it. To do nothing is better than to prostrate. Vital force and disease are in mortal combat, and opiates strike down the vital force without at all arresting the disease. Their popularity is unwarrantable, and astounding.

THE TRUE CURE is water, applied externally, as in the sitz bath and wet bandage, and internally by enemas. To the latter wheat flour may sometimes be added, partly as one of the best of emollients, and because the bowels will sometimes digest and appropriate its nutrition. Cayenne pepper will often prove highly beneficial by stimulating normal action and turning their current.

FOR CHRONIC diarrhœa, wear a wet bandage night and day over the whole visceral region, wrung from hot water when they are cold, but from cold when they are hot. Whatever temperature *feels* most agreeable to the patient is the best.

THE DIET already prescribed for constipation, reversed by eating what binds, applies here also, and for a like reason. Yet it is as singular as true that unbolted flour bread often regulates the bowels *both ways*, constricting when too loose, but opening when too tight. At all events, those who suffer from chronic diarrhœa should be especially careful not to eat anything injurious, nor do anything to impair the general health. Grapes eaten with the skins chewed, but not swallowed, will help close the bowels.

BLACKBERRIES and black raspberries naturally check bowel action; so let those who are constipated avoid, but loose, eat them. A tea made by steeping their leaves has a like effect. So have the bark of the wild cherry, and the cherries themselves, which, covered with water two parts, and New England rum one part, can be preserved

indefinitely. All the better if their pits are cracked, when a very little must suffice. Other bitters, as quassia, columbo-root, ginseng, wormwood, camomile, etc., often remove both constipation and looseness by promoting normal action.

BURNT FLOUR, a teaspoonful taken at a time and quite often, is very binding. A good deal will not injure.

VIRGIN MULLEN root tea, the first year's growth, that which has not yet seeded, has a like effect. Steep in milk.

These prescriptions put the reader on the track of analogous ones; but be especially careful not to check it *too soon or too much*.

OYSTERS, cooked in milk, sometimes sour on the stomach, and when they do, make short, sharp work. Those liable to bowel troubles, and all in cholera epidemics, should by all means avoid oysters thus cooked. Ten chances to one they would give you no trouble; but at such seasons this one chance should not be run. Yet the oysters themselves are all right. The milk, probably, does the damage, just as in custards.

VIOLENT EXERCISE, when the bowels are thus reversed, whether from custards, oysters and milk, vegetables, or anything else, that is, in all cases of cholera morbus, is probably good; yet not in cholera. When cattle have gorged themselves with green corn, we drive and run them to the top of their speed till evacuation is produced.

A VIGOROUS LIFT will sometimes cure at once. A victim of chronic diarrhoea, who had done and suffered everything without obtaining relief, was helped into Butler's lifting cure, and his first lift stopped his diarrhoea, and he remains perfectly well; probably by rousing them.

119.—THE DRINK OF DYSPEPTICS—ITS KIND, TIME, AND QUANTITY.

WATER is undoubtedly man's natural beverage.¹²⁰ Besides promoting health, its medicinal properties are also great. It is one of those powerful neutralizers of the corrupt matter in the stomach, the virtues of which have already been shown. Have dyspeptics not often noticed copious eructations of gas soon after drinking freely? This was caused by the mineral substances of the water combining with and neutralizing some of the obnoxious matter in the stomach, thereby creating this gas. Probably nothing equals water for reducing inflammation. Dip a burn into cold water, and keep it there half an hour, and its inflammation and consequent smarting will subside. Immersing a cut, bruise, sprain, fracture, rheumatic joint, or any other

form of inflammation, into water, will diminish both inflammation and pain. The virtues of water, as an antidote for inflammation in all its forms, are fully established by the water-cure. But this fact admitted, its application to the cure of stomachic irritation follows. No medicine, no diet, nothing equals its judicious application, external and internal, to the stomach of dyspeptics. Its external application, in the form of wet cloths laid on the stomach, and covered with several thicknesses of flannel to keep in the heat—and for this, night is by far the best time—is most beneficial; as are injections two or three times per day. But *drinking* cold water is the medicine for dyspeptics after all, not by stint, but by copious draughts.

THE BEST TIME for drinking is important. Ice water should not be drunk at meals, because it reduces the temperature of the stomach below 98° Fahrenheit, requisite for digestion, which it arrests till that temperature is again attained. In fact, dyspeptics should drink little with their meals, even though their mouths are dry while eating, because this very dryness provokes that salivary secretion so essential to prepare the food for digestion;¹¹¹ whereas drinking, by rinsing down the food, obviates this dryness, and leaves these glands to slumber. They should eat *dry* food, such as dry bread, crusts, Graham wafers, crackers, and the like, so as to increase the *demand* for saliva to moisten the food, and thus call the salivary glands into action. To discontinue these drinks may be quite a trial at first, but only temporary.

Dyspeptics should drink freely an hour and more after their meals, and till within an hour or two of the next meal, and then discontinue, so that the stomach may regain its temperature.

DRINKING BEFORE BREAKFAST copiously of water fresh from the well or spring, accompanied by as vigorous exercise as the patient can bear, will be found especially serviceable. Drink freely again an hour before dinner, and an hour before supper, if you take any, which dyspeptics should omit,⁹⁵ or rather be contented to drink instead of eating,—and again on retiring. If lemonade agrees with you, drink of that occasionally in place of water, but drink at these times mainly, and one month will greatly improve the tone of your stomach.

Add to this all the exercise you can well endure, business relaxation, a light diet, thorough mastication, and slow eating, and you will be well in one year, and probably less.

ICE WATER is a physiological abomination. The stomach cannot digest unless kept at a temperature of 98°. Water the temperature

of air is cold enough for health. All horsemen let water stand for hours after it is drawn before they dare give it to choice horses. Are you willing to impose ice cold water on your own delicate stomach and organism, which you know your hardy horse cannot endure! You would think your hostler crazy and dismiss him for giving ice water to your coarse grained horse; then where is your sense in giving it to yourself! Consider this palpable fact: your stomach must be kept at 98°. Cold water necessarily reduces it suddenly many degrees, thus interfering with digestion.

SIP cold water slowly enough to warm it in the mouth, but never drink it.

HOT DRINKS and ice water taken alternately, by heating and cooling the stomach suddenly, would soon *kill an alligator*. Where is the sense of either ice water drinkers, or hot slops drinkers, and especially of those who drink *both alternately*!

CHAPTER III.

FLUIDS ; THEIR NECESSITY, OFFICE, SUPPLY, AND EXITS.

SECTION I.

BIBATION ; ITS PHILOSOPHY, DESCRIPTION, CULTURE,
RESTRAINT, ETC.

120.—NEED AND USES OF LIQUIDS IN THE LIFE PROCESS.

ONLY A FLUID could *transport* all these life materials and excretions from and to all parts. And most of them, chyme, chyle, albumen, oxygen, carbon, etc., are either fluid or gaseous.

EXCRETIONS are continually passing off this fluid by perspiration, urination, expiration, etc. Much of it is turned into steam, and escapes by insensible perspiration.¹³⁹ Of course it must be re-supplied equally fast, or soon become exhausted. How is this re-supply furnished ?

BY WATER, which covers the greater part of the earth's surface, often many hundred feet deep, and constitutes a large proportion of all that lives. Nothing can grow without it, nor, mosses excepted, any dry vegetable live. The ancients supposed it the parent of whatever is endowed with life ; and experience teaches us that without it plants and animals parch up and die.

NONE CAN LIVE without it. Indeed, three-fourths of us are composed of water, and so are four-fifths of our blood. Whether this element is required on its own account, or as the great *porter* of the system, we will not now stop to inquire ; but, be its use what it may, it is as essential to life even as solid food, or any thing but air.

“ How, then, could Dr. Alcott live over a year without drinking a drop of liquid, and others a less time, yet experience no thirst ? ”

ALL WE EAT contains it. Meat consists of about three-fourths water ; carrots, beets, turnips, potatoes, and cabbages about nine-tenths ; eggs about seven-tenths ; milk nearly nine-tenths ; and thus of other kinds of food ; so that we cannot eat without introducing it into the animal economy.

IMBIBITION is, however, the main source of its supply. All that lives, drinks. Trees and vegetables drink through both their leaves and roots. Insects drink—mosquitos freely. All animals must have fluids to drink, or perish.

WATER, AND THE JUICES of fruits and vegetables, constitute the chief sources of this supply, which is abundant. The clouds pour it down copiously in showers, soaking rains, and pelting storms, which the earth imbibes, only to liquefy the sap or blood of vegetables and fruits, and thus promote their growth, and proffer it to man in gushing springs, beautiful streamlets, and great arterial rivers, white with floating palaces. All Nature cries for water, and is answered by its copious supply, which signifies its necessity. Let us “thank the Lord” for water, as well as for food.

WATER CONSISTS probably in part of aqueous animalcules, which supply some nutrition to drinkers. Nature fills all space with some form of life; then why not water? Phosphorescent animalcules abound in sea-water; then why not all water contain some kind of animalcules? They abound in the aqueous structure of the eyes, for we can often *see* them darting in all directions before our vision, and of course in other liquids. The fermentation of water doubtless kills off one kind, but creates another.

THE BEST liquid is undoubtedly the juices of fruits. They were made most delicious, because “that is best which *tastes* best.”⁹³ They contain nearly all the elements of food, fibrine, albumen, acids, and sweets, and constitute vegetable blood, which is quite like animal, in composite elements.¹⁰¹ They are soft, that is, contain no lime, and hence are especially adapted to those fully grown, and declining from age. The system needs bone material or lime, which it obtains from food, especially its rind, and probably can obtain enough from that source.

121.—SOFT WATER VS. HARD ; COUNTRY VS. CITY, AND SPRING VS. WELL.

HARD water is rendered so mainly by holding lime in solution, which impairs its washing and bathing properties. It also lodges along within the capillary blood-vessels, which it finally fills up or embones, and thereby occasions natural death ; and this partial emboning also causes the sluggish circulation and feebleness incident to declining years. Of course this natural decline keeps even pace with this emboning, which hard water increases, and thus hastens death. Of

course, therefore, soft water promotes longevity, because it leaves these blood-vessels open the longer. Use soft water if you would prolong life; but avoid hard, unless you are willing to accelerate its close. And it will creep along quite fast enough, without being hurried by drinking or cooking with hard water.

CALCULUS, which so often obstructs urination, besides rendering it extremely painful, is composed of lime, which has passed through the kidneys, lodged at the outlet of the bladder, and dammed up its contents within it. The catheter affords only temporary relief, besides irritating.

SOFT WATER AND FRUIT JUICE retard this calculary formation, and thus promote urinary and sexual and general health and improvement, and are every way immeasurably better than hard water. All owe themselves a full supply of one or both.

WELL water is generally used the most, but ought to be the least; because it often contains foreign ingredients much less favorable to life than those of spring water. All justly prefer springs to wells when both are equally accessible. Why should not that water proffered directly to us by Nature be better than that obtained by digging? and flowing than stagnant?

CITY well water is perfectly abominable; because it reeks with filth from all gutters, stables, cesspools, puddles, etc. All this corruption filters into the ground, and exudes into city wells. The earth would cleanse it, but that there is so much filth as to completely saturate the entire ground, and thus impregnate all city well water, which renders it perfectly loathsome to the taste. City water-works are therefore one of the greatest of blessings to their inhabitants, and ought to be got up for all cities, small and large, except when rain water can be had.

RAIN water, next to the juices of fruit, is the best form of liquid for the system. Caught on tin, or slate, or hard composition-roofs, and kept in deep, underground cisterns, it constitutes by far the very best water man can use for drinking or cooking, is always cool, keeps perfectly sweet the year round, and costs but a trifle; a few dollars being sufficient to construct one large enough to supply a good-sized family the year round.¹⁸⁰

SWIMMING and bathing embrace other valuable uses of water deserving of notice, but they can be treated to better advantage when we come to discuss the skin, to which we postpone them.

THIRST constitutes Nature's means of introducing liquids into the

system ;⁹¹ and is probably created much the same way with hunger, and results from a scarcity of liquids in the blood.

A PRIMARY MENTAL FACULTY creates and supplies this imperious demand for "something to drink." *Love* of fluids is a distinct class of functions, which presupposes a separate Faculty to cause and preside over it. Water exists ; therefore man must needs have some innate mental power adapting him to it, and it to him. He also loves water, and is benefited by its use, internal and external ; and in fact cannot live without it. The ancients recognize this need by calling it one of the four primitive elements, fire, earth, and sun being the other three. Drinking has always constituted one of man's paramount instincts, as universal as eating, because both are alike necessary to life. During infancy it is Nature's chief means of introducing nutrition into the system, and correspondingly large and active. This Faculty which executes this function is—

III. BIBATION OR AQUATIVENESS.

122.—ITS DESCRIPTION, LOCATION, CULTIVATION, RESTRAINT, ETC.

THE DRINKER AND BATHER.—Love of liquids ; fondness for water, washing, bathing, swimming, sailing, stimulants, etc. Adapted to the existence and utility of water. Perversion—drinking in excessive quantities ; drunkenness ; and unquenchable thirst.

IT IS LOCATED in front of Appetite, which it joins, and their functions are analogous. I often find it large in the descendants of inebriates, and regard it as fully established.

ITS FACIAL POLE is situated about the middle of the lower jaws, where its development fills out the face. It is especially apparent in the jaws of Louis XIV., and Vitellius ; engravings 95 and 97.

LARGE.—Are excessively fond of water, applied internally and externally, and a natural swimmer ; and with Observation and Locality, a natural seaman ; love to drink freely and frequently ; experience much thirst ; enjoy washing, swimming, bathing, etc., exceedingly, and are benefited by them ; with Ideality large, love water prospects ; with large Friendship and Ambition, and moderate Dignity and Acquisition, should avoid the social glass, for fear of being overcome by it.

FULL.—Enjoy water well, but not extravagantly ; drink freely when the stomach requires, and are benefited by its judicious external application.

AVERAGE.—Like to drink at times, after perspiring copiously, yet ordinarily care no great deal about it.

MODERATE.—Partake of little water, except occasionally, and are not particularly benefited by its external application, further than is necessary for cleanliness ; dislike shower or plunge-baths, and rather dread than enjoy sailing, swimming, etc., especially when Caution is large.

SMALL.—Care little for liquids in any of their forms, or for any soups, and, with large Caution, dread to be on or near the water ; with Appetite large, prefer solid, hard food to puddings or broth, etc., and are indifferent to fluids.

RIGHT DRINKING is almost as important as right eating ; and the juxtaposition of these twin brothers and co-working organs shows that they should be exercised together ; and hence doubtless their usual concomitance in practice. All should always supply their systems with abundance of the very best drinkables, and make right drinking as much a matter of conscience as right eating, and avoid wrong as they would poison. To this end it should be disciplined, which involves its culture and restraint.

TO CULTIVATE, smack your lips over this libation and that, and drink discriminatingly ; that is, exercise it by trying to enjoy drinks, and apply instinct to determine the difference between drinks, by applying to all drinks that nice discrimination applied by wine connoisseurs and selectors to wines. The Chinese usually *sip* slowly and leisurely, instead of drinking fast, as we do. Their custom is better than ours.

TO RESTRAIN is, however, much more, and often most, necessary. All inflammation of the stomach inflames Bibation, just as it does Appetite, and for precisely the same reason.¹²⁴ I have met cases by hundreds of this unquenchable thirst, the patient drinking down great pitchers-full of water every night, and still more by day. To such, that law of denying this craving, already applied to eating, also applies to drinking.⁹⁴ Such inordinate drinking does no good, but only harm ; because it is abnormal, and all abnormal action injures. Such persons should limit themselves to a measured amount, three pints daily being ample. The more such drink the more they will crave ; because this drinking inflames the stomach, which creates additional thirst ; whereas denying its morbid cravings will allow this inflammation to subside, and with it this ravenous thirst. Let sense govern here, as in all else we do.

SECTION II.

ALCOHOLIC STIMULANTS AND NARCOTICS, MALT LIQUORS, WINE, TEA, COFFEE, AND TOBACCO.

123.—STIMULATING DRINKS, AND THEIR CONSTITUTIONAL EFFECTS ON BODY AND MIND.

A CRAVING FOR ALCOHOLIC STIMULANTS is, however, the most usual abnormal form assumed by this Faculty. If it really *does* naturally crave what intoxicates, then God has engrafted *drunkenness* upon human nature for wise reasons and useful purposes; for He does well whatever He does at all. The problem then becomes almost infinitely important, whether this alcoholic craving is natural or artificial, inherent or acquired. Temperance advocates are bound in all philosophy to meet and answer this problem squarely and scientifically. A work on the science of life should neither ignore a problem thus grave, nor dismiss it in a flippant, slap-dash style, but should adjudicate it from the stand-point of *first principles*. Do alcoholic drinks impair, or improve, human life? fulfil, or violate, natural law? benefit, or injure, body and mind? moralize, or demoralize, its beneficiaries or victims? This problem is sufficiently grave to merit an entire section, which we award to it.

MEN DIFFER, *toto cælo*, as to whether alcoholic liquors benefit or injure mankind, mentally and physically; some waging war to the hilt against all forms and degrees of intoxicating drinks, while others, of equal intelligence and integrity, advocate their use in theory and practice. Even "doctors disagree" as to their utility, many prescribing, others condemning them. Which class is right, and which wrong?

SCIENTIFIC MEN owe it to themselves, and those they claim to serve, to lead people *right*, but not to mislead them, in a matter thus important. Truth is one, and those who are in the truth, will agree.

THAT CHEMICAL ANALYSIS required to settle this mooted problem is "out of our line," but a close, impartial observation of over half a century has given the Author something to say on this subject.

FIRST PRINCIPLES, not prejudice, should decide this matter. A flippant, elegant, eloquent, declamatory lecture is one thing, while *scientific* data and inferences are quite another. These we attempt.

ALL ARTIFICIAL EXHILARATION always and necessarily injures, because it draws greater drafts on the vital forces than it can honor

without detriment. Nature always supplies all the action and ardor she can well endure. This is proved by the fact that our impulsiveness and zeal are the greater or less as we are able to endure them. Action is the prime law of life, and all its functions. For this alone are they made. Inertia is inability. Laziness is sickness. All incline to do of something all they can endure without injury; and in this high-pressure age we greatly overdo, as compared with our strength. Our atmosphere is too bracing and tonic already, without alcoholic stimulants to provoke additional action. All need sedatives, not exhilarants, and calming down, not toning up. The natural tonics of breath, food, sleep, and health are all-sufficient, and immeasurably better than any and all artificial.

THAT REACTION which always follows exhilaration is its own condemnation. Reader, apply your own common sense to this class of facts. Whence this subsequent depression? Solely to allow Nature to take in a new supply of exhausted vitality. The fatality of these drafts is fearful. They "touch the quick." Nature has this beautiful provision,—Whatever strikes any sudden and telling blow on the life centre instantly rallies all the vital forces, and calls them in from all the extremities to this attacked life citadel. She must keep this *centre* good, or "give up the ghost," which Vitativeness will not allow till the very last life resource is spent.⁷⁶ But this constitutional "quick" can be "touched" only very rarely, or it breaks down in that proportion.

STUPEFACTION IS DEATH in its proportion. What sight is as utterly loathsome, disgusting, repellant, and totally nauseating as one "dead drunk!" And woman the worst! It would not *seem* thus horrifying unless it *were* so; for looks never belie.⁶⁰ "Beast! Why does he thus make himself a brute, aye worse!" is the involuntary exclamation, at least feeling, of all beholders; because drunkenness is beastiality, if not worse. Yet it is but the reaction of intoxication, which has so overdrawn this life centre as to leave all its functions except the central palsied for want of sufficient life force to carry them on. Life has all it can do merely to maintain its organic clasp, leaving all else virtually dead, vegetative life alone excepted.

THOSE AWFUL MORNING FEELINGS after a night's intoxication tell the same story, and are their own practical commentator, or rather condemner. Inebriation leaves these horrible feelings, because it has done a correspondingly terrible damage; to inflict which is a sin against existence itself! Young man, all men, beware! You cannot *afford*

thus to trifle with, damage, palsy and destroy your infinitely precious life-entity !

DELIRIUM TREMENS caps this dreadful climax, and labels all intoxication with its terrific anathemas ! What restlessness and fiery excitability ! What awful feelings and horrible illusions, in which only devils and hobgoblins glaring with rage, or else fiendish delight in torturing, horrify the dreadful spectre ! Only nightmare bears any comparison with it in mental agony of torture, and that but faint.

WHY "DEVILISH" sights ? and why not angelic ? Because alcohol inflames the stomach, and this Appetite, and this that optic nerve which lies along by its side.³⁶⁻³⁷ If its effects were beneficial, its sights would be pleasing ; for all obeyed law gives only pleasure ;¹⁹ whereas these visions of delirium tremens are painful beyond description, because their cause is proportionally injurious.²¹ Please note this *anatomical* reason why alcoholic intoxications create spectral illusions, and those thus horrid. All have them in proportion as they drink, because they are *inherent* in alcoholic stimulants.³⁷

THEIR PHYSICAL RAVAGES are thus seen to be fearful *a priori*. Let us see what *a posteriori facts* say about them. They say that cholera and all contagious and violent diseases far oftener prove fatal among inebriates than abstemiates. Drinkers fall sick oftener and more suddenly, and seemingly without any adequate cause. As the rabbit "kicks the bucket" from any little wound, while the kingfisher, hawk, and badger often live on though shot "all to pieces ;" so habitual though moderate drinkers usually lie down and die from trifling ailments, and doctors shake their knowing heads ominously over all bloated patients.

THEIR COMPLEXIONS tell the dreadful story. Stimulants create a dark, brownish, bluish, "bloody muddy" redness which signifies both physical inflammation, and moral demoralization.⁵⁹ A bright scarlet red is one of the best of signs, as a dark livid red is one of the very worst, physically and morally. In short,

EACH AND ALL THE ASPECTS, physically considered, in which drinking for exhilaration can be viewed, stamps and seals it as an outrage on all those physical and moral laws which govern human existence, which no lovers of God's holy ordinances and their own sacred selves would perpetrate. Being is too precious to be thus laid low, and offered up on this Bacchanalian altar. Young man, all men, "touch not, taste not, handle not, lest you too perish with the using," as myriads have perished, and are everywhere perishing around you.

EVEN ALL THIS is by no means all; would it were even the worst. If anything were yet wanting to affix to it the privy seal of Infinite Displeasure it is that—

IT INFLAMES PASSION, YET BLUNTS MORALITY. By an eternal natural law virtually already proved,²³⁻³⁶ all physical inflammation inflames the propensities, but palsies the moral and reasoning Faculties; whereas by a law yet to be demonstrated, perfection and happiness require the predominance of the upper Faculties over the lower;³⁰ so that alcoholic exhilaration reverses a cardinal natural ordinance. The great error of mankind is the predominance of the passions over moral tone; so that whatever increases this predominance is an unmitigated public and private curse. How, then, do alcoholic stimulants affect human intelligence and morality? Their one distinctive effect is to stimulate. For this alone are they drunk as beverages. Not one dram in tens of thousands is taken for any other purpose. This exhilaration is effected by inflaming the stomach. Now—

ALL STOMACHIC INFLAMMATION inflames the Propensities; because all the bodily nerves ramify on the *base* of the brain, right where these propensional organs are located, which of course inflames them more than it does the upper organs.

THAT LOVE, located at the lowest point in the base of the brain, is powerfully excited by strong drinks, is attested by the fact that they always enhance sensuality. The vulgarity and licentiousness they occasion are proverbial. Do they not incline all drinking parties to indecent allusions, the narration of obscene stories, and the singing of lewd songs, if not to carnal indulgence itself! The introduction of wine after dinner admonishes modest woman to retire, because she knows her delicacy is liable to be shocked if she remain.

ARDENT SPIRITS of some kind are indispensable to any and every debauch. Why do the abandoned always drink to intoxication? This principle answers, Because these drinks drown the voice of conscience, blunt modesty, stifle the claims of morality, intellect, and virtue, and whirl their guilty victims on in their sensual career of merely animal indulgence. Men and women, be they ever so moral and virtuous, under the influence of intoxicating drinks, are not safe. Before the first unforced advantage can be taken of virtuous woman, she must be partly intoxicated; and intoxication will render most females unchaste in feeling or action. And if this be true of virtuous woman, how much more of less virtuous man? How can a woman of delicate feelings tend bar, go to balls or parties where wine or spirits

are freely drunk, or consent to remain in the company of men who are surcharged with wine, porter, or any other kind of spirituous liquors, or on any account drink with them? Does she not know that she thereby renders herself liable to say or hear what it would make her blush to reflect upon?

THE COMBATIVE or contending propensity is also provoked by all alcoholic drinks. So combustible is the anger of the intoxicated that they take fire at every little thing, and even *seek* occasions to quarrel; and more bickerings, broils, fights, and duels are engendered by ardent spirits than by all other causes united. How rarely do men fight except when excited by liquor? How easily and powerfully provoked, how "all fit for a fight," do even well-disposed men become when intoxicated? Byron said that stimulants always rendered him "savage and suspicious."

THEY STIMULATE DESTRUCTION, or the bitter, hating, revengeful feeling; and hence drinkers will caress their wives and children one minute, but beat them the next. More murders are caused by ardent spirits than by all other causes combined. Let the calendars of crime decide this point. Hence, also, intoxicated men not only rail, curse, break, destroy, vociferate, and threaten vengeance, more than when sober, but it is then that an old grudge, otherwise long since buried, is raked up, and dire vengeance sought and obtained; and generally a human being can screw up his Destruction to the sticking point of murder, and depress his Kindness and Conscience below the remonstrating point only, or at least most effectually, by ardent spirits. Gibbs, the inhuman pirate who committed so many cold blooded murders, before his death confessed to his clergyman, who told me, that when about to perpetrate his most atrocious murders, his courage often failed him, till he had taken several potent draughts of strong liquor, which enabled him to commit any act of cruelty, however horrible, upon even defenceless females, with *sang froid* gusto. Fieschi, the attempted regicide, who fired the infernal machine at Louis Philippe, on his trial, testified that when he saw the procession coming, his courage failed him, but was revived by a dram of brandy; that it failed him a second time, but was restored by a second dram; yet that he could not bring himself to do the fatal deed till he had taken a third, and still more potent draught, and then he did it with a relish.

ANIMAL PROPENSITY alone subjects criminals to the penalties of violated civil law. Let, then, our intelligent lawyers, judges, sheriffs, justices, and observers, answer. Does not most of your criminal

business have its origin in drinking? But unless alcoholic drinks excite these Propensities more, relatively, than the higher Faculties, especially if they stimulated the Moral Sentiments most, or even equally, this state of things would be reversed, and drinking would render mankind more virtuous instead of most vicious. The fact stands out in bold relief, that drunkenness and vice go hand in hand. Intoxication is indeed the parent of all the vices, and this principle shows why, namely, because this reciprocal connection between the body and the base of the brain causes stimulants to excite the Propensities more, relatively, than the Moral and Intellectual organs, which induces vice and wickedness.

INTOXICATION OFTEN MAKES DEMONS incarnate of naturally good men. As long as the Moral and Intellectual Faculties predominate, no matter if the Propensities be vigorous. Duly governed, the more the better, because they impart force. When the two are about equal, with the Moral in the ascendancy, and the Animal not stimulated, all goes right; but a little stimulant gives the ascendancy to the Propensities, which renders truly good men very bad. But mark well the converse: it never renders bad men GOOD, nor the immoral virtuous; because it never stimulates the Moral and Intellectual Faculties more than the Animal feelings.

DRINKING GROG with friends, instead of drinking or doing anything else, is accounted for on this principle. As Friendship is located in the base of the brain, ardent spirits warm it up to vigorous action, and thus augment the flow and intensity of friendly feeling, and hence those who are half-intoxicated often hug and caress each other. Now if alcohol excited Friendship alone, it would do little injury, perhaps good; but since it inflames the other animal passions also, drinkers will be the warmest friends one minute, and the bitterest enemies the next, and then make up over another glass.

PARENTAL LOVE is also located in the lower portion of the hind head; and hence the half-intoxicated father will foolishly fondle his boy, and laud him to the skies, one minute, but beat him almost to death the next. Rathbun was incarcerated in Auburn prison for *beating out the brains* of his darling boy he doted on. Coming home intoxicated, while playing with the boy standing on his knees, grasped by the ankles, because the boy pulled his whiskers hard in play, in a real glee, he killed him by banging his head.

INTOXICATION PROVOKES conversation, because Expression is in the lowest part of the forehead; but as the Reasoning organs, which

originate ideas, are in the upper portion of the forehead, and therefore not only not stimulated, but actually weakened by it, drinkers talk, talk, talk, but *say* nothing—talk *words*, not ideas. Nor can the intoxicated reason. How almost impossible is convincing them, however absurd their positions, or self-evident yours. They cannot see the point at issue. They argue at random, and seem callous to reasons however clear or forcible. Yet their combativeness and all their prejudices are enhanced. How destitute of sense, thought, and refinement, is the conversation both of drunkards, and of those who stimulate only moderately! Witness bar-room chit-chat!—full of stories to be sure, but what kind of stories? The more animal, the better. A Byron, half-intoxicated, may indeed write *Don Juan*, and like productions, and compose poetry mostly addressed to the passions; but none in this state ever wrote *Paradise Lost*, Thomson's *Seasons*, Locke on the *Human Understanding*, Brown's *Mental Philosophy*, or Edwards on the *Will*. Pitt, Fox, Sheridan, and others, may be eloquent when partially intoxicated, yet their eloquence will be characterized by sarcasm, invective, denunciation, declamation, hyperbole, narration, and a remarkable flow of words, instead of by argument, profundity, or clear deductions from first principles; nor will it be freighted with rich ideas. But before drinkers can become even eloquent, a power far below reason, they require a peculiarity of Temperament and phrenological developments not found in one man in millions;⁵⁷ while it will destroy that of all the others, by overcharging some with excitement, and rendering others foolish, others bombastic, etc.

ALCOHOL SUBSEQUENTLY DEADENS in proportion. After having surcharged Appetite it prostrates it, and hence quenches connubial love and all the domestic virtues. Hence drunkards generally neglect if not abuse their families—a fact as notorious as this explanation of its cause is clear. While the exhilaration lasts, it surcharges Force and Destruction, only to palsy them after it subsides. Hence its subjects lose all spirit and efficiency, are irresolute and inefficient, and rarely take their own part or that even of their families when abused, so that boys often impose on them with impunity. This shows why the ambition of inebriates descends to propensity instead of ascending to the higher Faculties, and thus renders them doubly sinful and miserable; and why their sexuality wanes and perishes.⁶⁷¹

CHRISTIANITY consists in the ascendancy of the Moral and Intellectual over the animal, and the subjugation of the Propensities. Now

since all stimulating drinks morbidly excite Propensity, and of course violate this cardinal requisition of the gospel, therefore wine and spirit-drinking Christians are as perfect anomalies as hot ice or cold fire. As well have WICKED Christians as spirit-drinking Christians.

INTEMPERANCE ENFEEBLES SELF-CONTROL. This principle shows why. Their less debilitated, because previously less stimulated, intellects know the right, yet they have not sufficient self-government left to stem the downward current. Conscience remonstrates, but with little avail, and the Moral powers lift up their warning and persuasive voice without effect, because located far from the body. Hence, nothing but dragging them into the kingdom of temperance by that inimitable principle of Washingtonian kindness, and then removing temptation till self-control revives, can save them. And if they fall, forbear, not condemn, and put them again and again, if need be, upon their feet.

AMBITION always combines with those Faculties the most active. Combined with Conscience, it gives regard for *moral* character and correct *motives*; with Intellect, desire to be reputed learned and talented; with Ideality, for good taste, good manners, etc.; but combined with Force, for being the greatest wrestler, fighter, etc.; and with the other animal Propensities, for being first in their indulgence. Hence, since intemperance stimulates both Ambition and Propensity, it renders its victims emulous to be the greatest libertines, wrestlers, fighters, drinkers, and the like, but never to excel in talents or goodness. Two inebriates in Easton, Md., in 1840, vied with each other, on a wager, as to which could drink the other drunk. The next morning one of them was DEAD drunk.

ACQUISITION is excited, and hence the half-intoxicated continually ask, "how much will you give?" "what will you take?" "how will you swap?" etc., or suddenly become very rich, or bet, or else seek the gambling or billiard-table in quest of fortunes at once; yet, as their Intellectual organs are not equally excited, they generally make bad bargains; but, under the reaction which follows, they have little or no regard for property, and little industry, economy, or forethought about laying up for the future, but squander their all for liquor, even to the bread out of the mouths of their hungry children, and to the clothes from off their wives' backs. Hence they are universally poor, ragged, and destitute. If Astor should become a drunkard, even his immense estates would soon be scattered to the winds. During the exhilaration produced by strong drink, Dignity

and Ambition become unduly excited, and occasion boasting, bragging, swaggering, egotism, and a disposition to swell and dash out in gaudy style, assume airs, attract notice, etc. ; yet, during the subsequent reaction, regard for character and reputation is annulled, and with it one of the strongest incentives to virtuous and praiseworthy actions, as well as restraints upon vice and self-degradation. At first they are mortified beyond description if seen intoxicated, but afterward care naught for credit, honor, promises, respectability, or even the disgrace of family ; are destitute of shame, dead to dignity and manly feeling, and associate with those to whom they would before have scorned even to speak.

WHY DOES NOT ALCOHOL render the pious more devout and the literary ten times more intellectual ? Why not deepen and widen the channels of thought ? and render ordinary men Websters, Franklins, Broughams, and Herschels, and these intellectual giants actual Gabriels in intellect ? Or why not excite the Moral Faculties instead of the Animal ? Why not make Enochs of infidels ? Wesleys of deists ? and Paysons of skeptics ? Why are not all spirit-drinkers patterns of piety and good morals, and also stars in the firmament of intellectual greatness ? The law in question answers. Not only do they *not* augment talent and enhance literary attainments, nor make the profane pious, but they actually diminish them all ; prostrate intellect, bedim reason, darken counsel, render the ideas muddy, and before their approach, literary attainments, intellectual greatness, and moral purity, all vanish like the dew before the rising sun. They sometimes, though rarely, increase a certain kind of eloquence, yet are sworn enemies of greatness and goodness.

HOW OVERWHELMING this proof, therefore, how powerful and absolutely inevitable this conclusion, not only that all alcoholic drinks, but also that *WHATEVER* morbidly excites the brain and nervous system, thereby kindle the animal propensities mainly, but weaken the Moral and Intellectual powers. No more can any human being take either alcoholic liquors in any form or degree, or opium, tea, coffee, mustard, spices, or any other stimulant, without thereby proportionably inducing this result, and subjugating intellect and moral feeling to the sway of passion, than "carry coals of fire in his bosom yet not be burned." As soon will any other law of Nature fail as this. As soon will the deadly poisons become harmless, or water run up the inclined plane of itself, or the sun rise in the west, as any kind of morbid physical action fail to produce animality.³⁰ Nor does any middle

ground remain. Every item of artificial stimulant produces this animal result as its LEGITIMATE, its CONSTITUTIONAL effect.

WINE-MAKING destroys the integrity of the grape, already proved to be so beneficial, by excluding a large part of those materials its Maker saw fit to incorporate into it, besides injecting some elements into wine, alcohol for example, He saw fit to omit in grapes. This fact proves that grapes are better than their unfermented juice, and this than wine.

FERMENTATION SOURS it as that of dough sours bread. Can its decay improve it? And a like principle applies to apple, and all other kinds of cider.

ACIDS, however, are demanded in the system; and, when not furnished from other sources, supplying them through wine and cider is better than none. On this principle they often cure dyspepsia, as also by their acid combining with and neutralizing some other acid, or some injurious or excessive acidity. Still, the real question is, whether all required acids can or cannot be supplied directly from fruits without their undergoing this decomposition. Probably they can; but when not thus supplied, that of wines and cider is better than none, and hence relatively beneficial.

In certain conditions of the system, pure wine certainly does promote circulation and perspiration, and thereby relieves congestion, with its consequent aches and pains.

FRUIT GROWERS thus become the best practical lecturers on temperance, as well as genuine philanthropists, by furnishing acids in fruits, and thus forestalling this craving for alcohol. Cheap fruits are the best and most effective temperance propagandists. We need *fifty times* more fruit than we now have; and should then have less grog-shops by two to one. They can be raised very cheaply. They estimated in California, that at two cts. per pound, they pay a *two or more hundred dollar profit* per acre! Other fruits there are equally prolific, yet not as high flavored as eastern, except that Vicar of Wakefield, Easter Burrie, and some other late kinds, are more luscious there than here.

124.—ANALYSIS OF THIS ALCOHOLIC HANKERING; AND HOW TO QUENCH IT.

‘WHY THIS UNIVERSAL LOVE of alcoholic stimulants? If they are thus injurious, whence this resistless craving for them, throughout all times and climes, among all savages and semi-barbarians, as well as cultivated peoples? Why do untutored savages with Appetite unperverted conceive, almost from their first draft, an insatiate craving for

them, which soon consume them, powerful as are their physiologies? Why have all mankind always drunk? and they bid fair always to continue. Why was Bacchus worshipped more than all other ancient divinities except Venus, and these two together more than all the others? Why do good men and true, aye, even beautiful and lovely women, experience a craving for them as strong as any for food or water, and *follow it up*, though they see loved property, friends, social position and all else near and dear to man melting from their grasp, and they themselves drawn by it, like the charmed bird to the jaws of the remorseless cat, right into the open teeth of death and destruction. Some all-powerful *reason* must exist for this hold it has upon humanity. Only that can draw much money from the pockets of mankind which takes right hold on some sentiment *inherent* in humanity, something in-born. Men pay more for grog than even for their religion, and for anything else but food and love—more even than for domicil. Nothing not based deep down in the constitution of humanity could be thus co-eval and co-extensive with it. Men must therefore have a stimulating *Faculty*, which imperiously *commands* this indulgence. A mere habit could not last and extend thus. Man was *made* for alcohol, and alcohol for man. It is one of 'the good things' created in love by a bountiful Father for the luxury and benefit of His dear children, and not to be ignored. Men's appetites are as their *needs*,⁹³ and this thirst for stimulants is nature's warrant that they are equally useful."

AN INFLAMED STOMACH, consequent on its use, causes this hankering. That it is not inherent is proved by its being partial, and temporary; for if it were incorporated into man, *all* would have it, none lack it, the same as eating and breathing; whereas the majority of men escape it. Nor do any have it till it is *acquired* by drinking with others until it has inflamed the stomach, when this inflammation perpetuates and redoubles this craving. The rudiments of this craving are often transmitted, as all consumptive, dyspeptic, and other like diseased tendencies descend.³¹⁷⁻³²² Maternal longings, after wine and liquors, during carriage often pre-incline children to intemperance,⁶⁰⁰ but these cases are abnormal. This great fact challenges the world, that the great mass of mankind have no natural alcoholic craving *till after they begin to drink* it. If it were inherent all would have it from birth; whereas its being the creature of habit, increasing with indulgence, and decreasing with denial, proves that it is artificial, not normal.

IT IS TO DRINKING precisely what a ravenous hankering after food is to Appetite, and like that grows with use, but dies by denial. The more one drinks the more he must, and the less the less,⁹⁴ because drinking inflames the stomach, and this Bibation; but denying it allows this inflammation and therefore hankering to subside. Every

dram creates a craving for two more, and these for four successors, etc.

BEWARE, then, oh young man, how you create in yourself and others these insatiate cravings by treating and being treated ! It is these *public* drinking resorts men frequent which beget this habit, and ruin our best citizens *by millions* ! Liquor dealers, what *business* have you thus to *coax up* this ruinous appetite, and then by littles rob that pitiable victim of his hard earnings, and his wife and children of their daily bread and clothes, and all other creature comforts ! that good, pure, patient wife of her idolized husband's affections, and convert a jewel in society into a public nuisance ! That demoralizing, life-destroying, family-torturing game ought to be stopped by law, just as law stops the sale of diseased meats, poisons, etc.

WORKMEN, you do not need it, for it goes to the brain, not muscles, and is the laborer's great pall. Society, do save growing youth by shutting up those places where men meet and provoke each other to treat and be treated. And all, don't dare form this habit, and deny its first longings as you would a serpent's persuasions to enter his den. Parents, make drunkards beacons to your children. Society, furnish other public places of resort less fatal. Young men, don't *begin*, for only beginners and moderate drinkers are in any danger. Public men, be careful what examples you set those below you. Arouse, all, to stay this great plague of civilization, and slaughterer of God's noblest work.

"BY WHAT SURE^sign may we know with absolute certainty when alcoholic liquors are injurious, and when beneficial ? for we cannot afford ever to drink them when they injure, nor not to, when they benefit ?"

WHENEVER THEY INTOXICATE THEY INJURE, because their *surplus* carbon lashes up the brain and nerves ; but whenever, and as far as, they benefit, they never exhilarate ; because their alcohol *enters directly* into the circulation, and is seized and consumed by the life-force before it can intoxicate. Any hilarity they occasion is consequent on Nature thus working up this surplus so as to rid herself of this deleterious foe to life. Brandy tends to arrest cholera ; but in all such cases it never exhilarates or stupefies. Its doing either is proof positive that more has been taken than is beneficial. This test is absolute, and universal, and unequivocally condemns all drinking for social and hilarious purposes, and to "have a good time," as well as all gratification of a morbid craving after stimulants. Let the evils,

vices, and woes consequent on intemperance, which Gough with all his descriptive powers cannot duly depict, warn all such to abstain totally from all intoxicating drinks and wine, for all stimulating purposes.

TO BREAK UP a habit thus formed, abstain totally and from the start; for all gradual tapering off gradually tapers *on* by keeping up that stomachic inflammation which causes it. To *reduce*, not feed this inflammation, is the one thing needful. A milk diet will help do this. So will wearing a wet cloth on the stomach continually. So will any baths which excrete morbid matter through the skin; so will all observance of the health conditions. Dr. J. D. Stillman, of St. Louis, claims to have discovered a medicine which puts the worst cases of delirium tremens at once into a sound natural sleep, and kills all after hankering for it by removing that inflammation which generates it, and proffers ample proof. Such a medicine is undoubtedly possible.¹¹⁴ He claims that it obviates all false nervous excitement equally.

125.—CASES IN WHICH ALCOHOL BENEFITS.

ALCOHOLIC DRINKS BENEFIT in some states of the system. Nature creates nothing in vain. All things have their uses. Far be it from us to condemn any thing one jot farther than rigid science commands, or fail to "give the very devil his due." The exact truth concerning it will promote temperance, and guide to its right use, as well as prevent its abuse. Alcohol is most beneficial in the following cases:

1. IT NEUTRALIZES POISONS. Those bitten by venomous serpents can drink a pint of strong whiskey, etc., without the slightest intoxication resulting from it, because its alcohol, that which would otherwise have intoxicated, is instantly seized and appropriated by the life force to neutralize this poison.

ALCOHOL AS A MEDICINE, may sometimes supply needed carbon and stimulation, till reaction takes place; yet few sick persons need stimulants. They generally need rest instead. This is doubly true of chronic invalids. All stimulants, by *consuming* vitality without resupplying it, *draw on the constitution*, which they generally exhaust instead of building up. The weaker persons are, the more they require quiet, not false excitements. Those who abound in vitality do not need them, while those who lack it can ill endure their draft on the life fund. Physicians prescribe them too freely. Dr. Lee once prescribed wine whey, the day after a terrible attack of varioloid turned, as a tonic; but one spoonful convinced me that I wanted *rest*,

not stimulants, even in this mildest form. I craved only to be "let alone" and allowed to "*lie still and breathe.*"⁸⁵ I would not take even wine whey. Mark this logic.

WHENEVER the system is low enough to need stimulants *it is* TOO low to endure them, and needs *rest*, not inciting to action. Most tonics, wrongly so called, are only *excitants*. When the system is strong enough to *endure* them, it is strong enough to *go without* them. This logic is absolutely true and conclusive.

2. IT WARMS the system by supplying it with carbon, of which it is mainly composed. Whenever indigestion prevents the due elimination of carbon from food, which is not uncommon, alcohol furnishes it already eliminated, and prepared to enter at once into the circulation, and join oxygen in creating animal warmth,¹³¹ which must be had somehow, or death ensues; for its necessity to life is absolute. The blood receives it from the stomach, carries it throughout the entire system to every shred and fibre, and presses it into close contact with the oxygen in this same blood, when the *vis vitæ* seizes both, unites them in mutual combustion, and supplies itself with needed warmth, which would be impossible without this alcohol, and life without it. It thus relieves the system from the immense tax on its energies of keeping warm, which allows these energies to be appropriated to restoration otherwise impossible; sometimes carries the constitution through a life and death crisis; by striking the balance in favor of life, gives a delicious comfort in warmth in place of awful death-chills; invigorates every part with new life; and exerts beneficial effects really magical.

3. IT SUPPLIES THE BRAIN with necessary ingredients, when it has exhausted them, obtainable no other way as well. At times, when extreme mental exertion has completely used up cerebral energy, by having exhausted some of its indispensable ingredients, alcohol supplies them; thus enabling it, after a little rest, to resume its giant efforts.

THE SUPREME JUDGES OF TEXAS, with its attorney general, on returning from my lecture, stepped into a saloon to take a few drinks of cognac brandy, and invited me to join them, which, to continue our talk over the points of my lecture, I accepted; their drinking apology being that a few drinks of brandy on retiring, after the severe mental exertions of the day, fitted the brain for sleep, which it promoted, and thereby redoubled its energies for their next day's work; adding that nearly all Supreme Judges, confessedly the hardest mental

workers to be found, generally adopt this custom. A bigoted temperance man and lecturer of the strictest sect before, I saw that there might be two sides to this alcoholic question, and am now satisfied that pure alcoholic drinks may, in certain circumstances, be made greatly to promote brain action and intellectual power and endurance. Yet these cases are rare, and occur *only* when the brain has been *long over worked*.

4. ALCOHOL AFFECTS THE BRAIN MAINLY. One thing eaten or drunk affects one part of the system, and other things each other parts. Thus watermelons and celery affect the kidneys, horse radish the nerves, rhubarb the stomach and bowels, etc.; while alcohol confines its effects for good or evil mainly to the brain and mind. This shows why it both makes drunk, and causes delirium tremens. When, therefore, the brain needs its materials, or some powerful diversion of the circulation to relieve its partial congestion, alcoholic drinks, by furnishing both, exert an influence almost magical for good. And when the system does need them, every principle of duty and self-interest demands their supply. But, ye rattle-brained young men, who rarely ever think beyond your nose, and know no more about profound study and deep thought than a clam about astronomy, this need does not apply to you. None should ever learn to drink till long after they have learned to *think for a premium*. And even then an alcoholic dram is not needed once a week, and then only on retiring, but never for exhilaration. And in all this class of cases one full dram is amply sufficient.

PURE WINES BENEFIT, in some cases, in like manner. Though wine making destroys the integrity of the grape, already proved to be so beneficial, by excluding a large part of those materials its Maker saw fit to incorporate into it,¹⁰⁸ besides injecting some elements into wine, alcohol for example, He saw fit to omit in grapes; which proves that grapes are better than their unfermented juice, and this than wine; and yet good wine certainly does promote surface circulation, and thereby relieve congestion and pain, and increase life and its functions. And good wines may always be contradistinguished from adulterated chemical "stuff" by this effect—the pure wine sends the blood to the surface within a few minutes after it is drunk, and creates a gentle perspiration; while spurious admixtures, misnamed wines, do neither.

GOOD WINES RENEW THE BLOOD; for they are vegetable blood already, which is identical in elemental composition with blood, and thereby furnish ingredients for its manufacture.¹⁰¹

MALT LIQUORS, ale, porter, lager beer, etc., are open to a like objection with alcoholic, yet contain some nutrition, and their bitter often helps the liver. Still the liquor of stewed hops is better and cheaper. Observation and experience make against their habitual use, much more than for it. As generally drunk, between meals and irregularly, they injure much more than benefit. They create, and are generally drunk to gratify a morbid appetite, which they never allay, but only enhance. Such an appetite should be denied when formed, but should not be formed. Like a morbid craving for food, alcoholic liquors, opium, etc., they cry "give" always, but never enough.

126.—TEA, COFFEE, AND TOBACCO.

THESE IDENTICAL PRINCIPLES just applied to alcoholic drinks, apply, though with diminished force, to tea and coffee; and for precisely the same reasons. They are powerful tonics, too bracing for any nervous person to endure with impunity. They impede sleep for five or six hours after they are drunk. All lovers of them strong, are nervous in the extreme. They do indeed sometimes cure headache to-day, only to increase it for days afterwards. All inveterate tea and coffee drinkers suffer proportionally from headache, and usually sick-headache. If they will stop drinking them six months, their headache will stop. Is there no relationship between the amount of these narcotics now consumed, and modern nervous irritability? The Author speaks only from observation, not experience, for in sixty-three years he has never drunk a quart of either, all told; and could not be persuaded to take over a spoonful at a time, and not this once in months or years; nor ever, unless all jaded out, and as a temporary stimulant; when it improves and lengthens lectures, naturally producing copiousness, but at a terrible subsequent sacrifice of energy.

COFFEE has a worse effect upon the nervous system than tea. Let inveterates in either discontinue their use six months, and they will barely begin to realize the damage they inflict by noting how much *better* they feel after they become once fairly weaned.

THE WARD BROTHERS, the champion oarsmen of this country, never drink tea or coffee.

THOSE HOT FLASHES AND COLD CHILLS which supervene alternately on drinking hot tea and coffee, in their very nature must be most pernicious. We elsewhere show that sudden *extreme* changes of temperature

are often most remedial; yet they differ *toto cœlo* from that *temporary* heat and cold consequent on these drinks. That a cup of right hot drink sends a momentary glow of heat with light perspiration over the whole system, all drinkers of them are practical witnesses; as also that the next moment they feel light cold chills, the necessary consequence of the perspiration,¹³² run over them, and sometimes even shake with them. Colds must *necessarily* result from these sudden changes of temperature. Their stimulating effects are bad enough, but these results are worse, and redoubled by adding ice water. If you must use them, at least take them only about blood warm. Will readers please exercise their own judgment, and the known laws of physiology to these palpable *facts* of sudden heat and cold, and the common sense *principle* that these transitions are necessarily injurious, and think out the result? Is it not amazing that a truth thus palpable should have escaped public attention thus long?

“But we cannot drink cold water at our meals; for, besides being unpleasant, it cools the stomach so as to arrest digestion. What shall we drink instead?”

CHOCOLATE will do for those whose livers are in a first-rate condition; otherwise it produces an intense headache. Those who drink it should watch its effects.

CEREAL coffee, made by serving wheat, rye, corn, barley, or sweet potatoes just as Java is served by browning, grinding, and steeping, and crust coffee made by browning and steeping bread, are nutritious, and wholly unobjectionable, as well as palatable. Burn them the more the bitterer you wish it.

LEMONADE is an excellent drink for those on whose stomachs it does not sour. The system requires both sweets, which are analogous to alkalies, and sours or acids. The two probably correspond with those positive and negative electric forces by which life is carried on. They certainly have a strong mutual affinity, enter into that combination called effervescence, and leave a sediment analogous to charcoal. Lemonade embodies both, though not in their effervescent form, yet they probably combine in the system. At least its deliciousness is Nature's warrant that it is proportionally beneficial.⁹³

MORE LEMON, with less sugar than usual, is much better than more sugar with less lemon.¹⁰⁹

TAMARIND water is, for a like reason, also beneficial.

TOBACCO, chewed or smoked, is a rank narcotic poison. Its effects on beginners, before the system becomes inured to its use, shows

what its *constitutional* effects are on the organism. Can it turn the stomach thus at first without injuring it always? Its habitual use softens off this influence by paralyzing the stomach, which ceases to remonstrate because its sentient *power* is that much benumbed. Those who use it are not half alive; mark this reason.

IT PREVENTS DISCRIMINATE EATING. Only those can live well who feed their bodies appropriately.⁹⁴ A discriminating taste alone can do this.⁹³ Tobacco, by perpetually soaking these tasting nerves, must needs blunt them, and that it actually does blunt them, all consumers of tobacco are practical witnesses. They may eat enough, but they destroy Nature's dietetic *guide*, and with it all the utility it subserves. Tobacco benumbs all the other functions, by impairing the alimentary.

IT WASTES the saliva. It overtaxes only to weaken salivation.¹¹¹ Its extreme injuriousness renders it correspondingly loathsome, and this taxes these salivary glands to their utmost to liquefy it by spittle, and eject it. Would Nature be at all this trouble unless to cast out what injured her! Its creating and ejecting spittle is its scientific condemnation; because spittle, like blood, is a valuable auxiliary to life.¹¹¹ Do not thus waste it, and that blood out of which it is manufactured.

TOBACCO VITIATES the saliva, and thereby digestion, and the blood. This tobacco-tainted saliva finds its way to the stomach, and poisons the digesting food, and thereby the blood made from it. The odiousness of all the breaths of its consumers condemns it as plainly as Nature could condemn. A foul breath comes from a foul system, which is thus unloading itself. If its consumers can endure their own foetid breath, they have no business to inflict their rotten, stinking effluvia on outsiders, and especially on lovely woman, least of all a patient wife. Tobacco consumers chew and smoke *that*, and let it stop your chewing and smoking tobacco.

IT IS MOST FILTHY. It manufactures right within you, and in close proximity to the great laboratory of life, just the most loathsome and very nastiest compound possible. What could tempt you to take into your mouth that most repulsive pool you have just disembogued from it! And yet it is no more utterly defiled now than before it was ejected.

IT LOOKS AWFULLY. To see a long-faced, lantern-jawed, hollow-cheeked man make his face still longer and cheeks still more hollow by puffing is a disgusting spectacle even in a ragged loafer, but far

worse in a spruced-up dandy, who pretends to look genteelly, and scrumptiously. What must a woman of nice cultivated taste think on seeing a man whom she admired thus deform his noble, manly looks?

IT INJURES THE MIND by injuring the body; for both are so intimately consociated that to damage either without thereby damaging the other is impossible.³⁸ This is still farther proved by the fact that in proportion as it is used—

IT CREATES TOBACCO DELIRIUM TREMENS. What mean, what else are, those really awful feelings bordering on delirium tremens all you tobacco consumers experience mornings before you get your quid, and when “out of tobacco?” They are veritable “Simon pure” delirium tremens, and brand all tobacco consumption exactly as they brand dram drinking, with the privy seal of Divine reprobation. They are awful, because their cause is equally so. O do not thus injure your all-precious self-hood! You are worth *too much* to thus spoil yourself. A six months’ abstinence from it will barely begin to show you how much damage it is doing you, by your growing more robust and healthy, and feeling so much better every way without its use than with.

IT CREATES ALCOHOLIC HANKERINGS. This craving is consequent on inflammation of the stomach.¹²⁴ Tobacco creates this inflammation, and consequent hankering after some kind of stimulants. As when accustomed to cathartics one must take more and more to produce action; so tobacco-inflamed systems soon come to crave more and stronger irritation than tobacco furnishes, and therefore alcoholic. This tobacco tremens of which every tobacco consumer is the victim in proportion as he consumes it and is sensitive, demonstrates its inherent inflammatory effects, and this craving for false excitement creates alcoholic cravings, and leads right into alcoholic hankering and use, just as naturally and *necessarily* as the streamlet flows into the river. You may resist these cravings, but might not, and would then be ruined. At all events, tobacco users should absolutely forego all alcoholic and fermented drinks, because chewing and smoking greatly redouble the danger of becoming drunkards. Young man, don’t you *dare* to become a chewer or a smoker unless you are willing also to become a tippler. But for tobacco there would not be a tenth as much drinking of alcoholic and malt liquors.

ITS SAVAGE ORIGIN alone should condemn it. Can any good thing come out of Indiandom? And those who take to it do them-

selves no credit, and no good. Yet Indians do not smoke much "old Virginia," and then only a whiff at a time, passing the pipe of peace around, one pipe serving a dozen Indians.

PUBLIC MEN, be persuaded not to set examples thus accursed for boys to follow, who look up to you for leadership, lest they curse you forever, therefore, because you have injured them. If you deem these strictures harsh, remember *God* made these harsh *facts*.

To QUIT its use, quit using it; and the harder it is for you to quit, the more you need to. Love of it is a disease consequent on stomachic inflammation, which all indulgence redoubles.

SECTION III.

FLUID EXCRETIONS.

127.—THE KIDNEYS AND BLADDER; THEIR STRUCTURE, OFFICE, ETC.

THE KIDNEYS, right and left, are composed of an exterior or cortical substance, from a sixth to a fourth of an inch thick, and a medullary, which consists of a series of about fifteen pyramidal bodies, their bases towards the surface, and their points turned inward, each being a distinct gland, formed of uriniferous tubes, which terminate in *papillæ* at their apex. These uriniferous canals in the cortical substance are *extremely convoluted*, but become straight on reaching the pyramidal structure. The renal artery ramifies throughout this structure, into veins, both being tortuous, and containing an inconceivable number of deep red granules or corpuscles, each of which has a tuft of capillary vessels, in which the renal arteries terminate and veins begin. Convoluted ducts, at first extremely tortuous, begin in these granules, and terminate in straight tubes on the inside surface of this cortical substance, in *papillæ*, which open into the pelvis of the kidney, and from which the urine they secrete empties into the pelvis of the kidney, a strong, white, fibrous, tough structure, having three compartments, one central, and one at each end.

THE CEREBRAL ORGAN of the kidneys is probably located behind but near the foramen magnum, and in the cerebellum near its middle line, close by Love, and hence its health and debility are much affected by and affect the sexual states; disease in either being

usually accompanied if not caused by that of the other. Its facial sign or pole is probably in or near the lips, adjoining that of Love.²⁰⁰

EACH KIDNEY is about four inches long, and over two wide, shaped like a bean flattened, the right the lowest, the left under the spleen, and behind the stomach, their lower margin extending a little below the lowest ribs, and enclosed in a peritoneal tunic, easily separated from the gland, whitish in color, strong, elastic, and attached to the kidney by a very fine tissue.

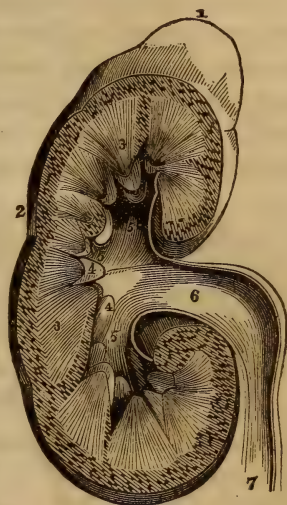
THEIR OFFICE is to secrete urine, which is composed mostly of water, urea, animal matter, lithic acid, several inorganic salts, as ammonia, soda, phosphate and sulphate of lime, magnesia, silica, etc.

THE QUANTITY of urine increases in age, because its quality is deficient. That is, the kidneys must use a much greater amount of water to carry off the same amount of urea. Thus water increases with the amount of liquid in the blood, and in cold weather, but diminishes as perspiration and cold increase.

UNLESS THE BLOOD IS FREED from these substances noxious to life, its functions soon run down and die, but not till feelings, mental and physical, the most awfully distressing, supervene. Their dormancy, inflammation, and derangements, of which sexual errors are the chief cause,⁵⁸² create an incalculable amount of bodily and mental disease and suffering, not to say real agony.

TWO URETERS or ducts run from the kidneys, which empty this urine into the bladder, as fast as it is delivered.

THE BLADDER is a temporary receptacle of this urine, to prevent its constant discharge as fast as it is made, which would be most loathsome and nauseating, for without it urine must flow perpetually, awake and asleep, creating an intolerable stench, which all would be obliged to carry with them to church and party, wherever they went, and whatever they did. All this the bladder now prevents by allowing its retention till it is full, when it is emptied, partly by will and partly



No. 106.—LONGITUDINAL SECTION
OF A KIDNEY.

1. Renal capsule.
2. Cortical structure.
- 3, 3. Uriniferous tubes, each collected into its conical fasciuli.
- 4, 4. Papillæ.
- 5, 5. The three centres.
6. The pelvis of the kidney.
7. Its ureter.

involuntarily. Its undue retention is most injurious and painful, and weakens the retaining muscles. This call should always receive immediate attention. An engraving of the bladder will be found in "Sexual Science." ⁵⁸³

128.—THE GLANDS AND ABSORBENTS; THEIR STRUCTURE, AND SYMPATHY WITH THE MIND.

THE GLANDS of the system are formed somewhat like the lungs, with two sets of capillary vessels, one for the ramification of blood, the other for secreting their respective materials. The accompanying engraving furnishes a faint illustration of the arterial structure of a gland. Both the venous and secretory structures are similar, all their respective ramifications being almost infinitely minute.



No. 107.—STRUCTURE OF A GLAND.

THE VARIOUS SECRETIONS made in these glandular ramifications are emptied into ducts, and these into one another, till all are emptied into one common reservoir, and carried to their places of destination.

THE GLANDULAR FUNCTIONS sympathize with the mental more intimately than any of the others. Every change and phase of mental action produces a corresponding change in glandular action. Thus,

thinking of food "makes the mouth water," that is, excites a copious secretion and discharge of the salivary glands. Sadness retards, and pleasurable emotions augment, the action of the liver; the former accelerating and the latter preventing digestion. Grief provokes a copious secretion of the lachrymal glands as in crying, and sudden joy sometimes has a similar effect; and thus of the others. But the most conspicuous illustration of this principle applies to that secretion which creates life. See "Sexual Science," Part VI.

THE GREAT PRACTICAL LESSON taught by this reciprocity, is the importance of keeping the mind in that calm and happy frame which promotes glandular secretion, and thereby health.

ABSORBENTS are stationed throughout the whole system, for the double purpose of taking up foreign matters, such as biles and other tumors, which do not come to a head, and also depositing surplus fat, which is only its surplus carbon, stored up against future want.

When imperfect digestion or a deficiency of food renders this carbonic supply unequal, for the time being, to its demand, these absorbents take up this fat and empty it into the chyle ducts, and so into the circulation. Hence the falling away of the sick or starving. When this fat is exhausted by protracted hunger or stomachic disease, these absorbents take up even muscle and cellular tissue, and empty them also into the circulation, which causes the extreme emaciation of the starving, of consumptives, dyspeptics, and the sick generally. This provision against any deficiency of nutrition is inimitably beautiful and useful. But the fact that all animals fatten best in the fall, thus laying in a stock of this fatty fuel just before it is wanted, is equally so.

SECTION IV.

THE BLOOD, AND ITS CIRCULATION; THE HEART, AND ITS STRUCTURE.

129.—OFFICE, INGREDIENTS, AND CIRCULATION OF THE BLOOD.

SOME PORTER, to bring and carry these life materials to and from all parts, receive and distribute all new materials, and gather up and eject the waste and vitiated matter used up by the life process, becomes indispensable. THE BLOOD constitutes this "common carrier" of the system. With its looks all are familiar. It is composed chiefly of two parts, blood corpuscles, or red globules, about $\frac{1}{300}$ of a line in diameter, and one-quarter as thick, which multiply or reproduce their kind, and naturally adhere to each other at their sides, forming columns, like coins placed above each other; and serum, that yellowish fluid which rises to its top when left to stand and coagulate.

SERUM is composed of about ninety parts water, eight of albumen and casein, and the rest salts, etc. Albumen abounds in female blood more than in male. It contains fibrine, the constant tendency of which is to assume organic shreds, which inflammation increases. Its blood clots are fibrine rudimentally organized. These globules imbibe the oxygen from the air in the lungs, and carry it to those tissues which expend it, and then absorb, or gather up the carbonic acid gas generated by the life process, and carry it to the lungs, from which it is extracted by the nitrogen of the air.

THE AVERAGE QUANTITY of blood, in given persons, is about one-fifth that of their bodies, those weighing one hundred and fifty

pounds having about thirty pounds, or four gallons, one-third of which is constantly in the arteries, and two-thirds in the veins. THE BLOOD thereof is the life thereof. It is the very fountain of life and all its energies. Even diseased organs are unloaded of morbid matter, reanimated, and rebuilt mainly by it. When it is good or poor, the whole system, brain and mind included, is in a good or poor condition; but when it is wanting, all is wanting; poor, all is poor; improved, all is improved.

A MENTAL FACULTY, with its cerebral organ, obviously carries on this function, as others do Appetite, etc.^{34 75} Its organ in the brain has not yet been discovered, but analogy locates it in the base of the brain, near Appetite, but farther forwards and inwards,—this organ being to circulation what Appetite is to digestion,—and undoubtedly situated as near as possible to the cerebral ramification of the 8th pair of nerves (see engravings Nos. 6 and 7), one of the three branches of which nerve goes to the heart, another to the lungs, and the other to the stomach; thereby showing why these organs sympathize so intimately with each other. Its development probably widens the face and head at and below the zygomatic arch, and gives full broad jaws, and a wide elliptic-shaped head. Lantern-jawed persons lack vigor in both it and its co-laboring visceral organs.

THE FACIAL POLE⁷⁵ of the heart is in the chin, the size, width, and downward projection of which indicates heart power, and naturally vigorous circulation. A large, wide, long, projecting chin indicates circulatory vigor and strong passions; while a small, narrow, retiring chin indicates feeble circulation and tameness.

LARGE.—Have an excellent and uniform circulation, and warm hands, feet, and skin; never feel chilly; withstand cold and heat well; perspire freely; have an even, strong, steady pulse; and are not liable to sickness.

FULL.—Have good circulation, and generally, though not always, warm hands and feet; are not much pinched by cold; and perspire tolerably freely.

AVERAGE.—Have fair, yet only fair circulation, and passional and animal energy: would be the better with more; and need to promote, at least should not impede, circulation.

MODERATE.—Have but poor circulation, along with uneasiness and palpitation of the heart; are subject to cold hands and feet, headache, and a dry or clammy skin; find the heart to beat quicker and stronger when inhaling, than expiring breath; are chilled by

cold, and overcome by hot weather; subject to palpitation of the heart on any extra exertion, walking fast, or up stairs, or a sudden startle, etc., and very much need to *equalize* and *promote* the circulation.

SMALL.—Have weak circulatory functions, and either a fluttering pulse, very fast and very irregular, or it is weak and feeble; suffer from chilliness, even in summer; are very much affected by changes in the weather; very cold in the extremities, and suffer much from headache, and heat and pressure on the brain; are subject to brain fever, and often a wild, incoherent action of the brain, because the blood which should go to the extremities is confined mainly to the head and vital organs; feel a sudden pain in the head when startled or beginning to put forth any special exertion, and suffer very much mentally and physically from heart affections and their consequences; have scarcely any pulse, and that on a flutter; and are cold, and “more dead than alive.”

TO CULTIVATE.—Immerse hands and feet semi-weekly in water as hot as can be borne, ten minutes, then dash on or dip into cold water, and rub briskly, and heat by the fire till warm, and follow with active exercise, breathing at the same time according to directions elsewhere given;⁸⁴ if there is heat or pain about the heart, lay on a cloth, wrung out of cold water at night; rub and pat or strike the chest on its upper and left side, and restrain Appetite if it is craving, and cultivate calmness and quiet. If sufficient vitality remains to secure reaction, putting the feet in cold water will be of great service.

TO RESTRAIN is not necessary, except when excessive circulation is consequent on disease, in which case remove the cause. A healthy circulation cannot be too great.

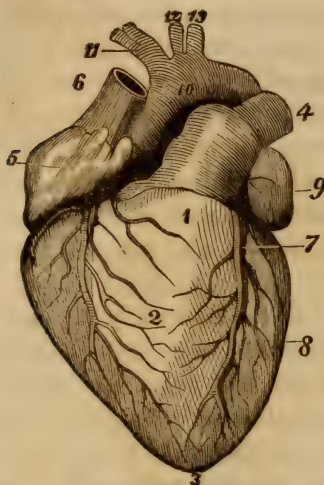
130.—THE HEART; ITS STRUCTURE AND WORKINGS.

THE CIRCULATION of this blood, thus freighted by the stomach and lungs with the materials of life, must now be effected. It must be propelled, too and fro, throughout every minute part of the system, so that every shred of every muscle, nerve, tissue, and organ, bones included, may extract from it what materials each may require, and return to it for ejection all their used up and vitiated materials. Some organ must needs effect this circulation.

THE HEART is this circulating organ. In structure it is a cavernous muscle, enveloped by the lungs;⁸⁰ oval-shaped; about five inches long, and four thick; largest relatively in robust, but smaller in delicate persons and females, weighing about eight ounces; encased,

and kept in its place by a membrane called the pericardium; and resting upon the tendinous or upper portion of the diaphragm, with its base upwards and backwards, and its apex pointing towards the fifth rib, left side, at its junction with its cartilage.

TWO AURICLES, or receiving chambers, and two *ventricles*, or expelling chambers, form its internal arrangement, and constitute in



No. 108.—ANTERIOR VIEW OF THE HEART, FROM BOURGIER.

1. Base.
2. Body and right ventricle.
3. Apex.
4. Pulmonary artery.
5. Right auricle.
6. Vena cava superior.
7. Anterior coronary artery, running along the anterior fissure which separates the ventricles.
8. Left ventricle.
9. Auricle.
10. Aorta.
11. Arteria innominata.
12. Left primitive carotid.
13. Left subclavian.

reality two hearts, bound and working together; the right auricle receiving the blood from the veins, and by its contraction propelling it into the lungs,⁸⁰ and the left auricle withdrawing it from the lungs, and speeding it throughout the body.

VALVES compel the forward flow of this blood through the heart and system. Backward it can never go, because of valves stationed all along the veins, which close the instant the blood begins to turn back, and hold it where it is, till it can again go forward. Tying a string tight around the base of your finger, and winding it towards the tip, would press the blood back into the arteries but that these valves prevent. They will oblige it to *burst through the flesh and skin* before they will allow it to go backward. Their structure is illustrated in the engraving on next page, from Bourguery.

FIBRES compose the main body of the heart. They are spiral and tortuous, crossing each other in all directions,

twisting around its apex, and flex upwards towards its base. They contract at every pulsation.

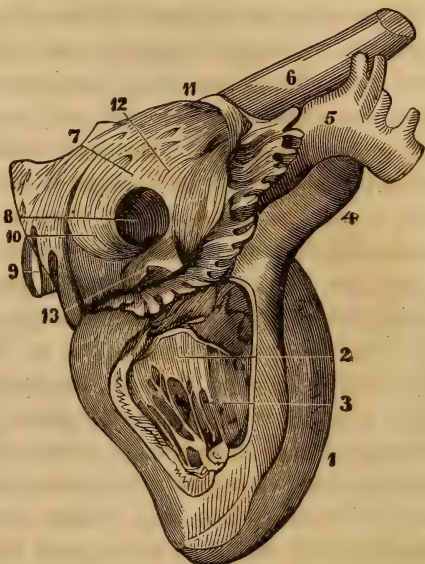
ARTERIES receive the blood from the left ventricle, and conduct it to the head, arms, legs, every visceral organ, and every part and parcel of the system, and to the heart itself. They are firm, elastic, cylindrical tubes, formed of three coats, the external, composed of tissues, which connect them with surrounding parts; the middle of fibre, which give its cylindrical form and firmness, yellowish color,

elasticity; and a thin, delicate, smooth membrane, resembling mucous membrane.

THEY ARE GUARDED from lesion by being deep-seated, often open into each other, and branch into infinitesimal capillary blood-vessels, situated between the arteries and veins in which the blood performs its chief function. These capillaries, too fine to be seen by the naked eye, form a network so closely woven together that the finest needle cannot puncture the flesh without drawing blood by piercing one or more of them. They empty into the veins, which carry the blood back to the heart, and run just under the skin. All the blood thus passes through two sets of this infinitesimal structure, one in the lungs,⁸⁰ in which it receives, and the other throughout the body, in which it gives off, its vital properties. The blood is red and brisk in the arteries, but dark blue and sluggish in the veins.

THE MUSCLES of both the heart and of the arteries aid the propulsion of the blood. "Aid," because the main propelling agent is electricity.⁸³ These muscles, acting involuntarily, must have some incentive to act. The electricity derived from breathing probably furnishes this stimulant. Will certainly does not. Then what does? Electricity both generates the main propulsive force which circulates the blood, and also provokes the muscles of the heart and arteries to help push it forward.

THE CONTRACTION of the heart, and of course arteries, transpires, on the average, in healthy adults, about seventy times per minute,



NO. 109.—INTERIOR OF THE RIGHT AURICLE AND VENTRICLE.

1. Right ventricle.
2. Tricuspid valve.
3. Chordæ tendinæ.
4. Pulmonary artery.
5. Aorta.
6. Descending vena cava.
7. Right auricle.
8. Orifice of the ascending vena cava.
9. Vena cava ascendens.
10. Valvula Eustachii.
11. Orifice of the descending vena cava.
12. Position of the tuberculum Loweri.
13. Valvula Thebesii, overhanging the orifice of the coronary vein.

varying from one hundred and forty pulsations in infants, to one hundred in children, and descending to sixty in old age, but averaging about seventy-two in middle life; besides being accelerated by all kinds of action, mental and physical, and by fevers, but being suspended in syncope, as in fainting turns.

TWO OUNCES of blood is the average amount propelled at each pulsation, or about ten pounds per minute, which is some *two hundred and fifty pounds* per hour, *three tons* every day and night, ten hundred and eighty tons per year, and *seventy-five thousand tons* in "three score years and ten." But this blood is handled over *four times* in each pulsation, once in drawing it in from the veins, again in pumping it into the lungs, a third time in withdrawing it from the lungs, and a fourth in passing into the arteries, exceeding a thousand pounds every hour, twenty-four thousand pounds every day and night, and nearly *nine million* pounds annually. Assuming the average amount of blood is twenty-five pounds, or four hundred ounces, the whole of the blood passes through the heart once in about every three to four minutes, fifteen to twenty times per hour, and over *six hundred times* from each sunset to the next. And at every round it is forced through two sets of gauze-like strainers, the finest imaginable, of which one is several inches long, besides forcing a part of it through the capillaries of the liver, spleen, and kidneys; and all this with a force sufficient to send it throbbing and rushing throughout the entire body, and into all those minute capillary vessels through which it passes! How little we realize how wonderfully we are made!

ITS TWO UPPER chambers, or auricles, contract upon the blood they contain at the same instant, thereby bracing and balancing each other. Their contraction produces a vacuum, into which blood is again received from the veins.⁸³ The two ventricles, or lower chambers, likewise contract together, thus also bracing each other, at the same time forcing the blood, the right into the lungs, and the left into the arteries. By this means time for rest is allowed the heart, the two auricles taking a short, though only a very short, nap, while the ventricles contract, the latter going to sleep, and waking up again, while the auricles contract—all its parts getting tired, and taking rest as quickly and as often as the heart beats. It must have rest as much as the muscles and nerves. Yet if, like the muscles, it required six or seven hours of *successive* sleep, death would inevitably supervene. Behold the simplicity yet efficiency of this arrangement for securing time to the heart to rest without suspending life!

THE MUSCLES, or walls of the heart, are thick, large, and strong, the ventricles being much stronger than the auricles, because they have more to do. The auricles only receive the blood from the veins and lungs, or rather empty it out of themselves, so that it may run in till it again fills them up and causes spontaneous contraction; while the office of the ventricles being much more laborious than that of the auricles, they are much the larger; and the left ventricle is by far the largest and strongest, because it has the most to do.

1. THIS CIRCULATORY PROCESS can be comprehended by remembering that the *right* side of the heart, auricle and ventricle, have to do wholly with the dark or *venous* blood, and the *left* with *arterial* or red blood.

2. THE TWO AURICLES, or upper chambers, draw the blood into the heart and empty it into the two ventricles, or lower chambers, which propel it—the right into the lungs, and the left throughout the system. Or thus:—

3. THE RIGHT UPPER chamber withdraws the blood from the veins, and empties it into the right *lower* chamber, which, contracting upon it, forces it into the lungs; while the *left* upper chamber, or auricle, withdraws it from the lungs and empties it into the left *lower* chamber, or ventricle, which propels it throughout the system.

How withdraws? As far as it promotes the circulation, it does so on the same principle by which water is sucked up out of the well into the pump, and up that pump to that valve which carries it still higher. The heart is in every respect a self-acting force pump. As the working of the pump creates a vacuum into which the pressure of the atmosphere on the top of the well, which is sufficient to lift an unobstructed column thirty-two feet, forces the water till it is again full; so the contraction of the right auricle of the heart upon the blood it contains, forces out that blood into the right ventricle, and thus creates a vacuum into which the pressure of the atmosphere upon the surface of the body, and of course upon the veins, together with the contractile power of the veins, the pressure of the muscles upon them, and the electricity in the lungs, propel the blood along into these auricles. And just as the water in the pump above the valve is forced up and out, so the right ventricle pumps the blood into the lungs, to be withdrawn again from them by that same principle. But for this external pressure of the atmosphere upon the veins, they would burst, strong as they are; and but for this internal pressure, the external would be sufficient to press their walls together too closely to allow the blood to circulate.

CHAPTER IV.

ANIMAL WARMTH, SKIN ACTION, AND SLEEP.

SECTION I.

ANIMAL HEAT; ITS USES, MANUFACTURE, AND DIFFUSION.

131.—ITS NECESSITY AND AMOUNT.

WARMTH brings life to man, animal, reptile, insect, and vegetable, while cold brings death, except when the vital forces in resisting it react, and generate warmth, and in cold-blooded animals. Neither food nor breath is any more necessary to life than is warmth. Life itself waxes and wanes with its amount of animal heat. How soon death results from being in the cold water of the upper lakes! How effectually it stupefies cold-blooded animals, reptiles, alligators, and insects! Swallows, chimney and all others, remain only during hot weather, because insects, their food, abound only then, and are killed off by cold. Warmth, in short, is one of the great agencies of Nature, of which the sun is the chief source; hence the utility and agreeableness of sunshine, which is not duly appreciated.

THE HUMAN SYSTEM must be kept up to about ninety-eight degrees Fahrenheit, in order to work well, and can rarely rise much above, or fall much below it, without serious injury; except that children are over a hundred degrees, while old people sometimes fall to ninety-two degrees.

A MENTAL FACULTY, aided by its cerebral organ, obviously commands and supervises this warming function, which resists cold and promotes warmth in proportion to its vigor. The mind and will have much to do in keeping us warm. On going from a warm room out into the cold, we naturally brace ourselves up against it, as all are conscious. What is this but the instinctive action of this Faculty? It must be small in cold-blooded animals, and deficient in chilly persons, but the larger in persons in proportion as they are the warmer. Those who generally feel cold and take cold easily, have the less of it, and *vice versa*.

IT IS LOCATED probably close to Appetite, in the base of the brain, and widens the head at the ears.

JOHN CLARK, a native of Connecticut, born more than a century ago, was peculiarly affected by cold weather. In the cool mornings of nearly every month in the year, his hands would become benumbed, and almost entirely useless, his tongue stiffened so that he could scarcely articulate, the muscles of his face contracted and stiffened, and one or both eyes closed in a very peculiar manner. This infirmity was hereditary.

DEFECTIVE LUNGS, and a consequent want of oxygen in his system, caused this chill. Or there might have been some defect in his digestion, by which a due supply of carbon was not extracted from his food. Many others are also troubled with being habitually cold, even in summer. Consumptive patients, and all predisposed to this disease, also feel cold or chilly, and have cold hands and feet, and often what is called goose-flesh on the skin.

HEAT ESCAPES perpetually from the human body, which is warmer than the air, except in extreme cases. If the atmosphere were as hot as our bodies, it would be most relaxing, from want of oxygen. It must generally be much colder than our bodies; so that, since heat is diffusive, and tends to equalization, we lose it all the time, and in right cold weather, *very fast*. Hence the coldness of corpses and of most surrounding objects. Our bodies would soon sink below the living point, unless supplied with heat from some *internal* fountain. Sufficient external heat to keep us warm enough would prevent the due oxygenization of our blood, and thus cause death. Whenever atmospheric heat approaches ninety-eight degrees, it creates that profuse perspiration which at once "cools us off." In short, the loss of heat, even during the hottest weather, is great, and in cold, enormous. Liebig estimates this loss as follows:—

"According to the experiments of Despretz, 1 oz. of carbon evolves, during its combustion, as much heat as would raise the temperature of 105 oz. of water at 32° to 167° , that is, by 135 degrees; in all, therefore, 105 times $135^{\circ}=14207$ degrees of heat. Consequently, the 13.9 oz. of carbon which are daily converted into carbonic acid in the body of an adult, evolve $13.9 \times 14207^{\circ}=197477.3$ degrees of heat. This amount of heat is sufficient to raise the temperature of 1 oz. of water by that number of degrees, or from 32° to 197509.3° ; or to cause 136.8 lbs. of water at 32° to boil; or to heat 370 lbs. of water to 98.3° (the temperature of the human body); or to convert into vapor 24 lbs. of water at 98.3° .

"If we now assume that the quantity of water vaporized through the skin and lungs in 24 hours amounts to 48 oz. (3 lbs.), then there

will remain, after deducting the necessary amount of heat, 146380.4 degrees of heat, which are dissipated by radiation by heating the expired air, and in the excrementitious matters.

"In this calculation, no account has been taken of the heat evolved by the hydrogen of the food, during its conversion into water by oxidation within the body. But if we consider that the specific heat of the bones, of fat, and of the organs generally, is far less than that of water, and that consequently they require, in order to be heated to 98.3° , much less heat than an equal weight of water, no doubt can be entertained, that when all the concomitant circumstances are included in the calculation, the heat evolved in the process of combustion, to which the food is subjected in the body, is amply sufficient to explain the constant temperature of the body, as well as the evaporation from the skin and lungs."

A RUGGED MAN, after eating a hearty breakfast, shoulders his axe on a cold winter morning, and works all day in the snow. Though the thermometer is many degrees below zero, while he is ninety-eight degrees above, with his coat and vest off, so that the transfer of heat from his body to the air is very rapid, yet he is all aglow all day, from head to feet, inside and out, with animal heat. The Indian keeps warm in northern latitudes with only a blanket, his half-naked body being exposed most of the time to the cold air. The deer, moose, wolf, etc., keep warm without fire or clothes.

THE PRESERVATION of this warmth, by its perpetual manufacture within the system, becomes a paramount life necessity. Though a snake may be so frozen that, when bent, it will snap like a pipe-stem, and yet come to life afterwards by warmth, yet man must be kept warm up to about the same temperature, summer and winter, in "Greenland's icy mountain, and on India's coral strand." How is this heating effected?

132.—HOW BREATH AND FOOD GENERATE ANIMAL WARMTH.

COMBUSTION is the only source of all artificial heat; and whatever burns, thereby produces it, probably by setting free *latent* heat, rather than by its creation.

DECOMPOSITION results from all combustion. Burning consumes or disembodies what it burns, and therefore soon *burns up* its materials, unless they are re-supplied.

CARBON is the base of all that burns, and whatever burns,—coal, wood, charcoal, vegetables, sweets, gases, etc.,—consists mainly of carbon.

OXYGEN is the burning agent, as carbon is the burnt, of all combusive processes. Carbon and oxygen, combining with each other,

and *ignited by the vital force*, create that "*animal warmth*" which maintains the equal temperature of the body.

BREATH AND FOOD generate this warmth. The stomach eliminates carbon from its food,¹⁰⁹ sets it free, and empties it into the blood, and the lungs furnish it with oxygen,⁸² and the two, commingling, are carried *together* into the fine capillary blood-vessels, and then pressed into mutual contact, when vitality seizes both, ignites them, and generates heat by their combustion wherever and whenever the blood flows.¹²⁹ That is, the oxygen of the air inhaled is forced in the capillary blood-vessels into close contact with the carbon of the food eaten, and having mutually a strong chemical affinity for each other, they unite in combustion, and burn each other up, on precisely the same principle employed in warming rooms, generating steam, etc. Nothing will burn without oxygen. Hence, though cotton is extremely combustible when it can obtain oxygen from the air, yet even it will not burn when compactly baled, because it cannot get oxygen to burn with. Nowhere in Nature is heat produced except by some form of combustion. Animal heat of course forms no exception. Chemistry shows that the affinity of oxygen for carbon is even greater than it has for iron;⁸² so that, when all these are forced into close mutual contact within the capillary blood-vessels, the oxygen loves carbon better than iron, leaves iron, and uniting with the carbon, creates animal heat. In producing fire, we must have fuel or carbon to start with, and then have a current of air upon the fire, so that the oxygen of the air combining with the carbon of the wood, produces combustion and evolves heat. But the carbon in the blood being unencumbered, free, and very abundant, and thus of the oxygen, there is no need of fire to start with, for the vital spark of life ignites them. They burn without, and burn each other up *spontaneously*, thus engendering that immense amount of animal heat within the system which re-supplies that given off by the cooling process just explained, and the body, together with all its parts, internal and external, is kept at that elevated temperature necessary for the maintenance of life.

133.—CARBONIC ACID GAS ; ITS FORMATION, AND EXPULSION.

SMOKE AND ASHES result from all combustion. Of course that of these two gases must and does eliminate both. And the ashes, or rather coals, of this internal combustion, analyzed, are almost identical in their chemical compounds with charcoal, both being composed mainly of carbonic acid. Combustion can never take place, out of

the system or in, without creating this acid; and that combustion which heats the system, forms some ten or twelve ounces of carbonic acid per day. This substance is hostile to life, and exceedingly poisonous, as seen when inhaled in a tight room in which charcoal is consuming. Its superabundance is fatal to life. Hence, unless some means were devised for ejecting it from all parts of the system where this combustion creates it, those parts must die. How is the system cleared of this foe?

BY THE IRON in the blood. That iron first made love, in the lungs, to the oxygen, also in the lungs, and wooed her to leave her husband, the nitrogen of the air, and run away with him, which she, faithless one, gladly seconded.⁸² But no sooner is she brought into close proximity, in the capillary blood-vessels, with the *carbon* in the blood, than she finds in it another paramour, which she loves still better. Carbon reciprocates this love; when, jilting her iron paramour, she rushes into the arms of this charcoal lover so ardently, that they consume each other, and die of excess of love, leaving only their burnt carcasses in the form of carbonic acid gas.

THIS IRON in the blood thus left desolate,—good enough for him, he ran away with oxygen, the wife of the nitrogen of the air, and carbon served him just right to run away with his stolen wife—by way of making the best of his desertion, proffers his hand to this carbonic acid, is accepted, concludes a union, and, being a great traveller, takes his new bride along back with him by slow and leisurely movements to the lungs. Their union, not being extra cordial, this carbonic acid finds in the nitrogen of the air in the lungs a much more agreeable companion than in the iron, and, quitting the iron, rushes through this gauze membrane of the lungs,⁸⁰ combines with this nitrogen, and is brought out of its pent-up enclosure into the wide world, again to enter into the formation of vegetables and food.

THIS DESERTION does not aggravate the iron, because he has found a new supply of oxygen, which he likes far better than carbonic acid. Or thus: The nitrogen in the air, and the iron in the blood, mutually agree to *swap wives*, each liking the other's wife better than his own, and as these wives both love each other's husbands better than their own, they "jump at" the proposed exchange. This series of faithless desertions on the one hand, and of runaway matches on the other, accomplishes that grand end of heating up the system so comfortable in itself, and so indispensable to life—a means as ingenious as the end

attained is indispensable. By these means the system guards itself against the otherwise fatal consequences of those sudden and extreme changes of the atmosphere from heat to cold ; is prevented from freezing on the one hand, and from burning on the other ; and always kept at the required temperature. Thus it is that—

ANIMAL WARMTH is generated by respiration and digestion.

PHILOSOPHICAL READERS, who love to trace out the relations of cause and effect, say whether these combinations, evolutions, and recombinations are not beautiful in the highest possible degree. And do they not go far towards explaining the *instrumentalities* by which life takes place ? This wonderful process, thus far an unfathomable mystery, the very attempt to solve which has been considered blasphemy, bids fair to be brought within the range of scientific investigation. That great philosopher, Liebig, has put us upon the track, and thus opened a new and most instructive field of philosophical research.

134.—THE REGULATION OF ANIMAL HEAT BY FOOD.

THE ATMOSPHERIC TEMPERATURE is extremely changeable, sometimes one hundred degrees above, and anon forty below zero. Some means must therefore be ordained to create the more heat the colder it is ; and the less the warmer, so as to keep the bodily temperature even.¹³¹ A self-acting instrumentality, as simple as efficient, effects this, viz. : the colder the air the more dense it is, and therefore contains the more oxygen and nitrogen for its bulk. Hence the three pints of air inhaled at each breath, yields the more oxygen the colder it is, just when the most heat is needed. The colder the air the more heat it both requires and generates ; so that healthy persons need little fire even in winter ; because Nature increases the supply of heat in proportion to its demand.

SINCE THE BREATH yields much more oxygen per hour in winter than summer, yet can combine with only its fixed equivalent of carbon, we need to eat the more food, and that the more highly carbonized, the colder the weather. Hence appetite is the better the colder the weather, and relishes more highly carbonized food, such as fat, four-fifths of which are carbon. This is equally true of butter, honey, various oils, nuts, and the like. Hence the Esquimaux can drink down gallons of train-oil, and eat twenty or more pounds of meat per day, and fourteen pounds of candles at a meal, without injury ; indeed cannot live without an immense consumption of car-

bon. The great condensation of the air consequent on extreme cold allows him to inhale proportionate quantities of oxygen, to burn up which he must have this great supply of carbon. We should, therefore, eat more in cold weather than in warm, and food richer in carbon.

Meat is unnecessary in winter, because vegetable food contains more carbon than animal. The albumen of wheat is over half carbon, and four pounds of starch contain as much as thirteen of meat. Molasses and sugar are about all carbon, except their water. All vegetable oils contain about four-fifths carbon, and hence nuts should be eaten in winter. Honey, butter, olive oil, etc., contain it in as great proportion as fat meat, which is made by an excess of food in fattening animals over breath, and liable to be diseased.

GRAMINIVOROUS ANIMALS, reindeer, etc., can inhabit very cold regions, while most carinivori are confined to warm. If meat is so conducive to animal heat and life, why are lions, tigers, etc., confined to warm climates? As oats keep the horse abundantly warm, why not oatmeal keep man warm enough in winter? Ask the Highland Scotch, from time immemorial, if their oatmeal cakes and gruel have not kept them warm enough to camp out, even in winter, with snow for their pillow and blanket.

CIVILIZED LIFE gives too much carbon, not too *little*. This is especially true of the sedentary. They breathe but little, because they exercise little, and live mostly in heated rooms, where the air is both rarefied and vitiated. Hence they inhale but little oxygen, and therefore require but little carbon to burn it up. Yet such eat, and keep eating, as heartily as out door laborers, and often more so. That fall coolness which brings relief sharpens up appetite, and they take still more carbon, thus keeping up both its superabundance and their disease; whereas, if they would eat sparingly, meanwhile breathing freely so as to burn up its surplus, they would obtain permanent health.¹¹²

135.—REGULATION OF ANIMAL HEAT BY FIRE.

FIRE, indispensable in generating steam, smelting, etc., can also be made to regulate animal heat. Though vigorous exercise in perfect health would probably furnish all needed animal warmth, yet we often require to apply our minds while sitting, as in writing, reading, listening, and in sickness, exhaustion, infancy, etc., where there is too little action to keep warm by breathing alone, when fire becomes

comfortable, and even indispensable. It is hardly less beneficial than water. If we do not keep sufficiently warm by air, we *must* supply the deficit by fire. Colds, those great disease breeders, come from being too cold. Yet even in sickness, when the circulation is low, it is better to provoke as much natural heat by friction and clothing and rely as little on fire, as possible. Invalids, of all others, require oxygen, which artificial heat always and necessarily reduces. Those who are obliged to resort to fire for warmth are pitiable. They may live along from hand to mouth as to health, yet can never know the real luxury of a comfortable temperature. Such should by all means practise directions for enhancing the circulation.¹⁴²

INTERNAL heat is immeasurably superior to external. Men rely far too much on external, and too little on internal. Though we require fire, yet this alone can never keep us sufficiently warm. How hot, think you, must the atmosphere be to keep the body, inside as well as out, at 98°? Hot enough to burn the skin to a crisp. Try the experiment on a corpse. Fire is utterly powerless to keep us duly warm. Most of our heat, indeed all of it, must be generated *within* us. The use of fire is to keep us warm by *retarding the escape* of internal heat, not to actually infuse external heat into us. Those who cannot keep themselves warm by breathing and food, can never keep warm at all; because in and by the very act of warming a room you prevent the manufacture of internal heat, by rarefying the air; and when the fire is in the room heated, burns out much of its oxygen, so that the lungs cannot convey enough to the blood to support the required internal combustion.⁸² External heat, therefore, so far from keeping us warm, actually prevents that warmth in the ratio of its intensity. That is, the warmer we keep our rooms, the colder we thereby keep ourselves. All this, besides the smoke and noxious gases necessarily consequent on burning fuel.

LET PERSONAL EXPERIENCE attest. How many times in your lives, in weather so cold that you could not keep yourself warm in-doors, when compelled to drive out into the cold, have you thereby so accelerated circulation and perspiration as in a few minutes to be quite warm enough, though just before chilly by a hot fire? And this natural warmth is much more delightful than artificial. Out of doors is the place to keep thoroughly warm in cold weather.

SEDENTARIES know no more about the backwoodsman's table luxuries, than he about "city fixins;" and the way he can beat them keeping warm in cold weather, notwithstanding their hard coal and

air-tight stoves, can be known only by trying. Those having constitutions unimpaired, should remain where there is as little fire as possible, and never rely on it to warm feet or hands, but only on natural warmth. Those who generally occupy warm apartments cannot well imagine how much more brisk, lively, buoyant, intense, and happy the feelings, and how much clearer and more vigorous all the intellectual operations, while one is kept warm by exercise in a cold day, than by sitting in a hot room; nor how lax and listless, in comparison, artificial heat renders us. Abundance of exercise, respiration, and good food are the great receipts for keeping comfortable in cold weather.

IN-DOOR LIFE in cold weather, and hot rooms, are exposed too forcibly by our subject to require enlargement. Housed victims can obtain only a small supply of oxygen; first, because the air they breathe is so rarefied by heat that a given bulk contains but little; secondly, because the fire has burnt out much of the vitality of that little; thirdly, because they have breathed what little air there is over and over again, and thus loaded it with carbonic acid gas; and because they exercise so little that they secure but little action in their lungs. Such live slowly, yet are incurring disease.

HABITUALLY CHILLY persons should occupy warm climates. For such, and for consumptives southern California, near the coast, about San Diego, is undoubtedly the very *best on the globe*.

AIR-TIGHT stoves shut out oxygen by preventing the circulation of the atmosphere, and are perfect abominations, except where frequent opening doors renews the air. Have a draught whenever you must have a fire. All close stoves paralyze life and hasten death. Open fireplaces are best.

THE RUSSIAN stove, made wholly out of brick, is cheaply and easily constructed, and makes an even heat, of which it gives off an astonishing amount for the fuel consumed.

136.—CLOTHES AS REGULATING WARMTH; THEIR NECESSITY, QUANTITY, KINDS, ETC.

APPAREL supplies one of man's natural wants; else he would have been created with a thick skin, covered with an abundance of hair or fur. He was obviously designed to inhabit both the frozen and torrid zones of the equator and both poles, where, without some protection against these extremes of the heat and cold, he must freeze to death in one, and roast in the other. Clothes furnish this protection, besides enabling him, by varying its quantity and quality, as the weather

changes, greatly to promote the required uniformity of temperature. They do not generate heat, but they do retard its escape. Wrapping up ice keeps in its cold; while wrapping a hot iron keeps in its warmth.

ALL WEAR TOO MUCH CLOTHING. Habit is allowed to determine the amount more than Nature. The error begins in the cradle. Mothers, extra tender of infants, pile on so many night and day, as to weaken their babes' skin.⁶⁴¹ From the first they are literally smothered with it. Besides keeping the nursery quite too warm, they must have on several thicknesses, and then be covered up most of the time under bed-clothes, with only a small breathing-hole left. It is just as you habituate them; with this difference, that shutting in the animal heat relaxes the skin, and paves the way for those colds so injurious.¹⁴⁶ Extra clothing promotes colds, instead of preventing them. They should not take cold; yet of this there is little danger, because that same self-acting regulator of heat which protects adults, exists also in them. Rely on this, and do not engender disease by extra clothing.

CHILDREN THREE YEARS old and over generate animal heat very rapidly, if allowed to play. Give them the liberty of the yard, and risk their taking cold, unless they have previously been nursed to death. This muffling up boys with comforts around their necks, in addition to neck wrappers, caps pulled down tight around their ears, warm mittens and overclothes, a cart load of bed-clothes, and the like, are injurious. When running out and in, they will keep warm without all this fuss.

THE INDIAN even in cold latitudes keeps more comfortable in the coldest weather, with only a blanket thrown loosely around his shoulders, and much of his body exposed directly to the cold, than we with a quarter of a score of thicknesses, and cotton batting to boot. We need clothing, yet should rely upon it only as a partial regulator of heat, not as our principal warming agent. Clothes, by retarding its escape, cause us to require less food and breath, so that those who cannot get enough to eat, should dress extra warm, while those who can eat should dress lightly. Extra clothing also relaxes the skin, and prevents the generation of animal heat, which leaves the system colder instead of warmer. The young and robust should habituate themselves to but little clothing, even in winter, relying for warmth more on Nature and less on art; yet we should not change too suddenly. Too much is better than too little. Keep warm we must; but should augment internal heat by increased exercise and breathing.

ITS QUANTITY should be the greater the colder the weather ; yet the healthy need not vary its quantity with every variation of the weather, for the internal heat is in the exact ratio of the external cold. This alone shows that we should rely on Nature's provision for warmth, instead of on art—should breathe and eat more as the weather becomes colder, instead of dressing warmer.

YET INVALIDS, and those whose circulation is defective, require such variation. As most of us now are, these changes would benefit ; yet we should diminish their necessity by enhancing internal heat.

CLEANLINESS demands a frequent change of raiment. Since perspiration brings out a great amount of corrupt and poisonous matter through the skin,¹³⁸ most of which is absorbed by the under clothes, of course they should be changed and cleansed frequently. The necessity of this will be rendered apparent by the following experiment : Taking off and rolling up your under garment, wash your body, and the unpleasant sensations consequent on putting it on again show how much corruption it has imbibed, and how repugnant it is to a clean skin. The same sensations are experienced when you return to bed, after having been up a few minutes. This also shows the importance of airing, and frequently changing the bed-clothes. None should sleep in the under garments worn day times.

FLANNEL AND SILK under clothes in cold weather are rendered advisable by the weakness of the skins of most city, and many country people ; yet those who can keep warm without them should put them on later and take them off the earlier, and wear them only till they can remove them without taking cold. Silk is highly extolled for comfort ; yet, like flannel, retains the perspiration and effluvia. Cotton furnishes the best material for under and summer clothing.

137.—ATTIRE FOR THE HEAD, NECK, HANDS, AND FEET.

SOME HEAD DRESS should obviously be worn, if only to keep the hair in place, yet hardly for warmth, which hair secures. Hats and caps keep it too warm, unless well ventilated, while chignons outrage good taste, and blunt the mind by palsying its cerebral organ, the brain,³⁵ but the turban is unobjectionable. Muffling up will do for invalids, but is unwise in those who can do without.

A TIGHT-NECK DRESS is most injurious, because it retards the flow of blood to and from the head. Stocks do this, and by choking cause bronchial troubles. A tight-neck dress also confines in the clothes

and around the body that nauseating effluvia it generates, which an open dress allows to rise and pass off. The Byronic mode of dressing the neck is preferable to all others, and advisable in those ladies who can keep warm with it, and in *all girls*.

THE BEARD of men, when allowed to grow, protects the throat, permits the escape of perspiration and effluvia, looks masculine, was not created for nought, and cannot be cut off with impunity.

THE HANDS can be kept warmer without mittens than with, for they obstruct natural warmth. Put them on late, and only in extreme cases, and warm your hands by rubbing, whipping, etc., and they will rarely ever suffer from cold.

GLOVES in summer, worn for looks, are supremely ridiculous. What! Human hands so homely that gloves must cover their deformity? and human fabrics handsomer than divine? and rat skin than human? Gloves hide the bewitching beauty of the female hand. Natural beauty surpasses artificial. Hands unadorned are adorned the more.

BARE ARMS promote health and comfort, especially while at work, by allowing the free escape of waste matter. Children who go with them uncovered will be the healthier, and feel the more comfortable.

WARM FEET are most desirable, as cold ones are most injurious. They guard the system against the ingress of disease, while more diseases enter it through cold feet than through all other channels put together.

THAT OLD SAW, "Keep the head cool and feet warm," is full of practical wisdom. In fact cold feet induce headache by a partial congestion of the brain; nor is there a greater cure for headache than rubbing, washing, soaking, and toasting the feet, because they draw off that extra rush of blood to the head which causes it to ache.

WASH AND RUB THE FEET OFTEN. Few things promote health more than their daily ablution. It will nearly double that of every reader who will practise it, as well as unspeakably enhance his serenity of mind. Jefferson attributed his uniform health, even in advanced age, more to this one practice than to any other. Running in the water in summer does children good. Let all children be brought up to wash their feet in cold water on retiring. Than the prevailing idea that it injures them, nothing is more erroneous or foolish. Is it poisonous? Warm wet feet are not the precursors of the winding-sheet, though cold wet feet often breed disease. Keep up the circulation in them, and they may be wet half the time without

injury. The great evil is not in wet, but COLD feet, of which the judicious application of cold water is the greatest known preventive.

DRESSING the feet so as to secure the required warmth, then, becomes a matter of great importance. Reliance for keeping them warm should not be placed on shoes, stockings, and fires. The principles of fire and dress, already applied to the body,¹³⁵ apply equally to the feet. Almost exclusive reliance should be placed on vigorous *circulation*, as secured by exercise and washing, not on stockings, boots, and over-shoes. In fact, the latter generally *impair* the circulation, and thus induce coldness of the feet instead of warmth. In general, the lighter dressed the warmer, provided they have sufficient *exercise*.

STOCKINGS INJURE, because they retain the perspiration, which invites cold. Experiment will surprise all who try it, that feet keep warmer without them than with. A friend was awakened early one cold winter morning, to take the stage which could not wait. Unable to find both his stockings, he started off with but one, intending to get a pair at the first relay; but finding the unstockinged foot the warmest, postponed day after day, when, finding it still the warmest, he discontinued the use of the other, and has done so ever since, and says his feet are much the warmer for it. Similar trials will result similarly; yet should be commenced in summer, and the feet washed daily. These views may seem strange, because contrary to custom; but try, before condemning them.

HEATING the feet with brick, stones, and the like, impairs instead of promoting the circulation. Warm them by walking, stamping, and the like, instead. And in riding, by far the best plan for keeping them is to walk or run.

GOING BAREFOOT in summer is most beneficial for children. All love it dearly, and this is Nature's warrant for its utility. The soles of their feet are furnished from birth with a thick epidermis,¹³³ which going barefoot renders very thick and tough, and abundantly protects them from injury, of which all poor and barefoot subjects are examples. It will not give them cold, but will prevent sickness by promoting health and circulation in the feet all through their after life.

"BUT HOW THEY LOOK!" What was just said of covering the hands applies equally to dressing the feet. If bare feet were fashionable, they would look no worse than bare faces or hands. The Persians esteem uncovered faces as ugly-looking as we do uncovered feet; whereas they are quite ornamental as well as useful, and children look

almost as bad with them muffled up in summer as ladies do with covered ears. Still "every one to his liking."

"BUT UNCONFINED feet grow large, broad, and homely." Then go to China and have done with it. As though cramping the feet, and preventing their natural development, increases their beauty! As though you could improve on Nature, and correct her deformities by art! Let Nature "have her perfect work," yet you who choose may warp and cramp yours to your liking.

LARGE SHOES and "broad across the soles," are most desirable during growth, as narrow soles and cramped feet are most injurious. Tight shoes and boots interrupt pedal circulation for all after life, and thus induce other and more aggravated ailments. Give feet "the largest liberty."

CORNS, always consequent on wearing too tight boots or shoes, should warn all to wear those which neither pinch nor pain. To cure them, wash them often in cold water; keep them well pared down with a sharp razor; put a wet cloth on them at night; give away or burn all pinching boots and shoes; and wear a piece of deerskin over corns, with a hole cut in it, just where they come.

FLESH-CUTTING TOE-NAILS are easily curable thus. Instead of cutting them off, only to have to repeat the operation, or of raising them up, as is usual, so wind a narrow strip of thin cloth around the toe, as to form a *wrinkle* of skin and flesh on its *under* side; that is, so as to crowd and keep the flesh *away* from the nail, instead of keeping the nail away from the flesh. Or press the *flesh downward* instead of raising the nail upward, and you will hear no more from it.

PARING THE MIDDLE of the top of the paining nail will also allow it to thicken or full up in its middle, which will raise its cutting corners up out of the flesh.

SECTION II.

THE SKIN, PERSPIRATION, ETC.

138.—THE STRUCTURE AND OFFICES OF THE SKIN.

PROTECTION against all prospective evils and dangers, is one of Nature's first laws.¹⁸² The body must be guarded at all points. Its extremely delicate organs and functions must not be interrupted or interfered with, on pain of death. Some envelope, hard to break

through, some fender to resist all aggressions, must encase its entire surface. Yet it must be so flexible as to allow perfect freedom of action.

FOREWARNING against transpiring injury is also a necessity.²¹ We must be made to *shrink back* from whatever is impairing our organism, besides learning to avoid it ever afterwards.

EXCRETION must be amply prearranged. The waste and poisonous ingredients generated by this life process must be allowed to escape.

THE SKIN effects all these, and several other like ends. It consists of a tough, yet exceedingly thin membrane, enveloping the entire surface of the body, in structure quite like the mucous membrane which lines the inside of the alimentary canal. It is composed of three coatings—the cuticle, or epidermis, a horny, insensible over coat, such as we see often rubbed up by bruises, and raised in blisters. This outside skin is thin over the joints, so as not to obstruct their motion, but thick in the palms of the hands and soles of the feet, even from birth—a wise provision indeed. The middle coating, called rete mucosum,



No. 110.—PAPILLA OF THE SKIN. AFTER GERBER.

various colors—the African, black, for example. The cutis, dermis, or true skin, is the great instrumentality of sensation, absorption, and exhalation.

A MENTAL FACULTY with its cerebral organ, obviously secures this required skin action.⁷⁵ It has not yet been, but will be discovered; along with its facial polarity.

ITS MODE of producing sensation by touch is illustrated in the accompanying engraving of one of the papillæ, or extremities of the nerves, which originate in the brain, and after traversing and ramifying throughout the entire body, finally terminate in an infinitesimal network of nerves at the skin.

LITTLE PORES fill this cutis perfectly full, about three thousand being contained in every square inch. It is also filled with two sets of capillary nerves and blood-vessels, the latter being especially numerous here so as to support the former, and thus create sensation.

Indeed, it is probably composed mainly by these tissues, and its innumerable pores are doubtless formed by their interweaving. Through them the waste water, and much of the excrementitious matter engendered during the vital process, escape; causing the perspiration to be sensible or insensible, according as it is more or less copious.

SENSIBLE perspiration causes sweat to ooze out and stand in drops, or run down in streams, from all parts of the body, as when we take violent exercise in hot weather, drink copiously of warm water, and the like.

INSENSIBLE perspiration is perpetually escaping from all parts of the skin, and rendered plainly perceptible by inserting the hand in a glass tumbler turned bottom upwards, or by laying it on glass, or even drawing the finger slowly across it.

THE REGULATION of animal heat is also effected in part by this perspiration. In hot weather our internal heat is sometimes so excessive that, unless dissipated somehow, it would melt the fat, and cause death. This surplus is carried off by perspiration thus. All bodies absorb heat when passing from a dense medium to one more rare. Hence water, in passing into steam, takes up a great amount of heat, which it again gives off in returning back to water, on the well-known chemical principle that all bodies give off heat when passing from a rarer medium to a denser. Here, again, water becomes a porter. An excess of heat aids the conversion of water into steam, which then takes up this surplus heat, carries it out of the system in steam, and gives it off again while condensing back to water—a self-acting and most efficacious arrangement for effecting an indispensable end. Hence men can remain in ovens heated hot enough to cook meat, and long enough to bake it, without destroying life. They *sweat out* this surplus heat, or else their own flesh would also bake.

PERSPIRATION must needs, and does perform some most important end in the animal economy. These forty ounces of water do not steam forth perpetually from the system alone, but rush out much of the waste matter engendered by the vital process, which is one of perpetual *waste*. It is estimated that all the matter in the body, at any given time, becomes useless, because its vitality is “used up,” and carried off, and its place re-supplied by foreign substances, every seven years. Probably half that time would be nearer the fact. Of course, if it were allowed to remain just where it is created, the body would soon become as filthy as the Augean stables. To prevent this, it is carried off as fast as it is manufactured.

How? By that same aqueous porter which brought it. The blood brings a load of oxygen, and, as soon as it is unloaded, takes on one of carbonic acid created by combustion.¹³⁴ After the water in the blood has carried out and deposited its freight of fresh muscle, nerve, etc., it takes on another freight of waste matter, and issues forth in steam. But for some such expulsive principle, this water would lie inert in the system. Force is necessary to expel it, and doubly so to expel its accompanying corruption. Now does not this conversion of water into steam, which necessarily manufactures force, create the power required to expel both the water and its freight? At all events, out it comes, and drags along out with it *more than half* of the refuse of all we eat and drink. Though the kidneys, bowels, and lungs help to evacuate this waste matter; yet the skin is the great sluice-way for this excrementitious egress—that scavenger of life which collects up all the leavings and filth out of the highways and byways of the city of life, and empties them out through this gateway. Hence the—

139.—IMPORTANCE OF KEEPING THE PORES OF THE SKIN OPEN.

CLOSED PORES leave this waste matter shut up within the body, to clog the organs of life on the one hand, and breed disease on the other; because most of this waste matter, like carbonic acid, is *poisonous*¹¹³ as well as in the way. It *must* escape, or extinguish life. Woe to that system which retains it within its borders! Andrew Combe enforces this point as follows:—

“In tracing the connection between suppressed perspiration and the production of individual diseases, we shall find that those organs which possess some similarity of function sympathize most closely with each other. Thus the skin, the bowels, the lungs, the liver, and the kidneys sympathize readily, because they have all the common office of throwing waste matter out of the system, each in a way peculiar to its own structure; so that, if the exhalation from the skin, for example, be stopped by long exposure to cold, the large quantity of waste matter which it was charged to excrete, and which in itself is hurtful to the system, will most probably be thrown upon one or other of the above-named organs, whose function will consequently become excited; and if any of them, from constitutional or accidental causes, be already weaker than the rest, as often happens, its health will naturally be the first to suffer. In this way, the bowels become irritated in one individual, and occasion bowel complaint; while in another, it is the lungs which become affected, giving rise to catarrh or common cold, or perhaps even to inflammation. When, on the other hand, all these organs are in a state of vigorous health, a temporary increase of function takes place in them, and relieves the

system, without leading to any local disorder; and the skin itself speedily resumes its activity, and restores the balance among them.

"One of the most obvious illustrations of this reciprocity of action is afforded by any convivial company, seated in a warm room in a cold evening. The heat of the room, the food and wine, and the excitement of the moment, stimulate the skin, cause an afflux of blood to the surface, and increase in a high degree the flow of the insensible perspiration; which thus, while the heat continues, carries off an undue share of the fluids of the body, and leaves the kidneys almost at rest. But the moment the company goes into the cold external air, a sudden reversal of operations takes place, the cold chills the surface, stops the perspiration, and directs the current of the blood towards the internal organs, which presently become excited—and, under this excitation, the kidneys, for example, will in a few minutes secrete as much of their peculiar fluid, as they did in as many of the preceding hours. The reverse of this again is common in diseases obstructing the secretion from the kidneys; for the perspiration from the skin is then altered in quantity and quality, and acquires much of the peculiar smell of the urinary fluid.

"When the lungs are weak, and their lining membrane is habitually relaxed, and secretes an unusual amount of mucus from its surface, the mass thrown inwards upon the lungs by cold applied to the skin, increases that secretion to a high degree. Were this secretion to accumulate, it would soon fill up the air-cells of the lungs, and cause suffocation; but to obviate this danger, the Creator has so constituted the lungs, that accumulated mucus, or any foreign body coming in contact with them, excites the convulsive effort called coughing, by which a violent and rapid expiration takes place, with a force sufficient to hurry the mucus or other foreign body along with it; just as peas are discharged by boys with much force through short tubes by a sudden effort of blowing. Thus, a check given to perspiration, by diminishing the quantity of blood previously circulating on the surface, naturally leads very often to increased expectoration and cough, or, in other words, to common cold.

"The lungs excrete, as already noticed, and as we shall afterwards more fully see, a large proportion of waste materials from the system; and the kidneys, the liver, and the bowels, have in so far a similar office. In consequence of this alliance with the skin, these parts are more intimately connected with each other in healthy and diseased action than with other organs. But it is a general law, that whenever an organ is unusually delicate, it will be affected by any cause of disease more easily than those which are sound: so that, if the nervous system, for example, be weaker than other parts, a chill will be more likely to disturb its health than that of the lungs, which are supposed, in this instance, to be constitutionally stronger; or, if the muscular and fibrous organizations be unusually susceptible of disturbance, either from previous illness or from natural predisposition, *they* will be the first to suffer, and rheumatism may ensue; and so on. And hence the utility to the physician of an intimate acquaintance with the previous habits and constitutions of his patients, and the advantage of adapting the remedies to the nature of the cause, when it can be discovered, as well as to the disease itself. A bowel com-

plaint, for instance, may arise from overeating as well as from a check to perspiration; but although the thing to be cured is the same, the MEANS of cure ought obviously to be different. In the one instance, an emetic or laxative to carry off the offending cause, and in the other a diaphoretic to open the skin, will be the most rational and efficacious remedies. Facts like these expose well the glaring ignorance and effrontery of the quack, who affirms that his one remedy will cure every form of disease. Were the public not equally ignorant with himself, their credulity would cease to afford to his presumption the rich field in which it now revels.

"The close sympathy between the skin and the stomach and bowels has often been noticed, and it is now well understood that most of the obstinate eruptions which appear on the face and rest of the surface, owe their origin to disorders of the digestive organs, and are most successfully cured by treatment directed to the internal disease. Even among the lower animals, the sympathy between the two is so marked as to have arrested attention. Thus, in speaking of the horse, Delabere Blaine says, 'By a well-known consent of parts between the skin and alimentary canal in general, but between the first passages and the stomach in particular, it follows, in almost every instance, that when one of these becomes affected, the other takes on a sympathetic derangement also, and the condition is then morbid throughout. From close observation and the accumulation of numerous facts, I am disposed to think, that so perfect is this sympathetic consent between these two distant parts or organs, that they change the order of attack as circumstances occur. Thus, when the skin is primarily affected, the stomach becomes secondarily so, and vice versa,' so that 'a sudden check to the natural or acquired heat of the body, particularly if aggravated by the evaporation of a perspiring state,' as often brings on disease of some internal organ, as if the cause were applied to the organ itself.

"In noticing this connection between the suppression of perspiration and the appearance of internal disease, I do not mean to affirm that the effect is produced by the physical transference of the suppressed exhalation to the internal organ. In many instances the chief impression seems to be made on the nervous system; and the manner in which it gives rise to the resulting disease is often extremely obscure. Our knowledge of the animal functions is, indeed, still so imperfect, that we daily meet with many occurrences of which no explanation can be given. But it is nevertheless of high utility to make known the fact, that a connection does exist between two orders of phenomena, as it calls attention to their more accurate observation, and leads to the adoption of useful practical rules, even when their mode of operation is not understood. Nothing, indeed, can be more delusive than the rash application of merely physical laws to the explanation of the phenomena of living beings. Vitality is a principle superior to, and in continual warfare with, the laws which regulate the actions of inanimate bodies; and it is only after life has become extinct that these laws regain the mastery, and lead to the rapid decomposition of the animal machine. In studying the functions of the human body, therefore, we must be careful not to hurry to conclusions, before

taking time to examine the influence of the vital principle in modifying the expected results.

"It is in consequence of the sympathy and reciprocity of action existing between the skin and the internal organs that burns and even scalds of no very great extent prove fatal, by inducing internal, generally intestinal, inflammation. By disordering or disorganizing a large nervous and exhaling surface, an extensive burn causes not only a violent nervous commotion, but a continued partial suspension of an important excretion; and, when death ensues at some distance of time, it is almost always in consequence of inflammation being excited in the bowels or sympathizing organs. So intimate, indeed, is this connection, that some surgeons of great experience, such as the late Baron Dupuytren, of the Hotel Dieu, while they point to internal inflammation as in such cases the general cause of death, doubt if recovery ever takes place, when more than one eighth of the surface of the body is severely burnt. And whether this estimate be correct or not, the facts from which it is drawn clearly demonstrate the importance of the relation subsisting betwixt the skin and the other excreting organs.

"In some constitutions, a singularly enough sympathy exists between the skin and the bowels. Dr. A. T. Thomson, in his work on *Materia Medica* (p. 42), mentions that he is acquainted with a clergyman who cannot bear the skin to be sponged with vinegar and water, or any diluted acid, without suffering spasms and violent griping of the bowels. The reverse operation of this sympathy is exemplified in the frequent production of nettle-rash and other eruptions on the skin, by shell-fish and other substances taken into the stomach. Dr. Thomson tells us that the late Dr. Gregory could not eat the smallest portion of the white of an egg, without experiencing an attack of an eruption like nettle-rash. According to the same author, even strawberries have been known to cause fainting, followed by a petechial efflorescence of the skin.

"We have seen that the insensible perspiration removes from the system, without trouble and without consciousness, a large quantity of useless materials, and at the same time keeps the skin soft and moist, and thereby fits it for the performance of its functions as the organ of an external sense. In addition to these purposes, the Creator has, in his omniscience and foresight, and with that regard to simplicity of means which betokens a profoundness of thought inconceivable to us, superadded another, scarcely less important, and which is in some degree implied in the former; I mean the proper regulation of the bodily heat. It is well known that, in the polar regions and in the torrid zone, under every variety of circumstances, the human body retains nearly the same temperature, however different may be that of the air by which it is surrounded. This is a property peculiar to life, and, in consequence of it, even vegetables have a power of modifying their own temperature, though in a much more limited degree. Without this power of adaptation, it is obvious that man must have been chained for life to the climate which gave him birth, and even then have suffered constantly from the change of seasons; whereas, by possessing it, he can retain life in a temperature sufficiently

cold to freeze mercury, and is able for a time to sustain, unharmed, a heat more than sufficient to boil water, or even to bake meat. Witness the wintering of Captain Parry and his companions in the Polar Regions; and the experiments of Blagden, Sir Joseph Banks, and others, who remained for many minutes in a room heated to 260° , or about 50° above the temperature of boiling water. The chief agents in this wonderful adaptation of man to his external situation are undoubtedly the skin and the lungs, in both of which the power is intimately connected with the condition of their respective exhalations. But it is of the skin alone, as an agent in reducing animal heat, that we are at present to speak.

"The sources of animal heat are not yet demonstrably ascertained; but that it is constantly generated and constantly expended has been long known; and if any considerable disproportion occurs between these processes, it is at the immediate risk of health. During repose or passive exercise, such as riding in a carriage or sailing, the surplus heat is readily carried off by the insensible perspiration from the lungs and skin, and by the contact of the colder air; but when the amount of heat generated is increased, as during active exercise, an increased expenditure becomes immediately necessary."

140.—COLDS CAUSE MOST DISEASES.

COLDS CONSIST in *suppressed perspiration*; nothing else, and are occasioned thus: Cold always contracts. This fact is established. Hence a sudden change of the temperature of the skin from heat to cold causes its pores to contract; many of them to close. This shows why we perspire so little in obdurate colds and fevers. The injury they inflict arises mainly from their shutting up this waste matter within the system. And the reason why, during colds, the lungs, nose, etc., discharge copiously a thick, yellow phlegm, is, that this corruption, shut in by the closing of these pores, yet being hostile to life,¹¹³ is carried to the lungs, and converted into phlegm, to the kidneys, bowels, and even to the brain, and discharged through the nose and all the other outlets; and hence that increase of all these excretions as mentioned by Combe.

EXPERIENCE attests that these cold customers are exceedingly troublesome. How dull, feverish, restless, and miserable they render us, and how full of aches and pains! They are the principal cause of tooth-aches. A bad tooth rarely gives trouble except after a cold; and the way to cure it is to cure that cold which causes it.

FEVERS, too, are mainly the results of colds. That sand bar of health, the fever and ague, always supervenes on colds. Avoid them, and you escape it. And those neighborhood epidemics which sweep over city and country, affecting nearly all, prostrating many, and cut-

ting off more or less in the midst of life, are generally only colds, which certain states of the atmosphere have conspired to occasion, and these cause choleras, influenzas, or other distempers. Avoid colds, and these plagues will pass you by as those of Egypt did the Israelites. None can have a cold without having a fever, for colds cause fevers. Though fevers may be caused by other violations of the laws of health, yet colds are always their usher. Hence the adage, "Stuff a cold and starve a fever," is erroneous. Bilious and kindred attacks always supervene on colds, generally commencing with chills, just as colds do; and though the stomach is also disabled, yet, but for the cold, it would not have given out. It may have been previously foul, and have thus generated a great amount of corruption, which, however, open pores would have continued to carry off; whereas, this outlet closed, it is retained, accumulates, obstructs, poisons, and at length prostrates, perhaps destroys life. *Colds cause* nine-tenths of all the diseases of all climates, except those created by impaired digestion. Indeed, even when the latter breeds disease perpetually, open pores carry it off as continually, so that little damage is done. But shut these pores, and all that corruption engendered by impairment in any of the vital organs, is also shut in to poison and destroy. Keep clear of colds and you will escape diseases, because other causes will rarely be sufficient to induce them. As five-eighths of the waste matter of the vital process escapes through the skin, why should not the closing of this avenue occasion that proportion of all diseases? Let those who think this attributes more diseases to colds than really belong to them, note the universal fact, that they always precede and induce consumption,—that great mower of human life. Did you ever know a consumptive patient whose attack did not set in after a terrible cold? Consumption is only a cold protracted and aggravated. No matter how predisposed, hereditarily or practically, persons may be to consumption, they will never have it till they take a "heavy cold." Avoiding these precursors and ushers of this disease, insures your life against the disease itself. And those thus predisposed should, in a special manner, guard against contracting colds, and when taken, break them up as *quickly as possible*, for their *life* depends upon the issue.

CHILDREN rarely sicken till they get *cold*. Of the correctness of this assertion, let observation be the test. All colds do not make them down sick, yet they never become sick till they have taken cold. Keeping them from the latter guarantees them against sickness. Even when their

disease appears to be seated in the stomach, or head, or other organs, its origin will generally be found in suppressed perspiration, as shown in the extract from Combe. Catarrhs are the direct products of colds. So are most bowel complaints, and brain fevers, influenzas, and almost all infantile ailments. Keep the young from taking colds, or break up all colds as soon as contracted, and they will never be sick, nor die, except of old age.

RHEUMATIC affections also proceed from colds. Are not these pains in joints, muscles, and bones, re-doubled every time you take cold? The same holds true of headache, which is generally a rheumatic affection of the brain.

A PROMISING YOUTH, in East Bradford, Mass., took a most violent cold, which induced a correspondingly violent fever, and hurried him into his grave. Another brother, while attending the funeral of this one, also took a terrible cold, which in a few days swept him also into eternity. A sister, exhausted by watching this brother, also took a severe cold while attending his funeral, and, in consequence, was soon bereft of reason, and then attacked with a scorching fever, of which she died in about a week. All three deaths were distinctly traceable to colds. Three or four other members of this self-afflicted family were also sick simultaneously, of colds, the weather at the time of these funerals being particularly unfavorable. Tracing sickness up to its cause, will show that colds cause nine cases in every ten. Recall your own ailments, and see if this principle does not explain their origin. But why particularize further? Do not the experiences of most, and the observations of all, prove that colds are the chief causes of disease? And the distinctions made by physicians between different forms of fever, and other diseases, are not founded in the *nature* of such diseases, but are only different modes of attack and manifestation of the same disease—colds.

THEIR PREVENTION, therefore, becomes as important as they are injurious. To consumptives it is life, as these colds are death. How, then, can they be prevented?

BY KEEPING THE SKIN ACTIVE. Animal heat abounds at the surface so as to fortify it against those changes of temperature which affect the skin mainly. Hence the great accumulation of blood-vessels at the surface. Probably no part, the head excepted, is as abundantly supplied with them as the skin. Hence its warmth. Now vigorous surface circulation will keep these pores so warm as to resist the closing action of the external cold. In such cases these atmospheric

changes do no evil. They close the pores only where the surface circulation has become impaired. Keep that vigorous, and it will ward off all colds, extreme cases of exposure excepted. Whatever, therefore, tends to promote the activity of the skin, thereby fortifies the system against colds. The two means of promoting such action, are the promotion of circulation in general, and the external application of friction and water.

141.—BATHS, AND THEIR MODES OF APPLICATION.

FREQUENT ABLUTION of the entire body effectually fortifies against colds. How suprising an amount of scurf and dried skin is taken off by an occasional hot bath and friction! Right bathing will stave off consumption, no matter how great its hereditary predisposition. Astor's wealth would not compensate for a discontinuance of this practice, because colds, with all their evils, would soon follow. Any reader not accustomed to frequent bathing, would actually find a greater prize in its judicious application than if he should inherit Rothschild's fortune; because, by removing diseases and their causes and prolonging life, it would promote general enjoyment more than all the wealth of the world! Its habitual use renders one *cold proof*, and keeps both hereditary and acquired predispositions to disease at bay, as well as doubles and trebles ability to endure both physical and mental exertion. Even as a luxury, it is equalled only by food and sleep. Its pleasure is the greater the colder the weather, because of the greater reaction and subsequent delightful glow. Still, it must be rightly managed, else it results in evil proportionate to its good, and should never be taken except where sufficient energy remains to produce a delightful *reaction and glow*—these sure signs and concomitants of its utility. A. Combe remarks on this point as follows:—

“FOR GENERAL use, the tepid or warm bath seems to me much more suitable than the cold bath, especially in winter, and for those who are not robust and full of animal heat. Where the constitution is not sufficiently vigorous to secure reaction after the cold bath, as indicated by a warm glow over the surface, its use inevitably does harm. A vast number of persons are in this condition; while, on the contrary, there are few indeed who did not derive evident advantage from the regular use of the tepid bath, and still fewer who are hurt by it.

“Where the health is good, and the bodily powers are sufficiently vigorous, the cold bath during summer, and the shower bath in winter, may serve every purpose required from them. But it should never be forgotten, that they are too powerful in their agency to be used by

EVERY ONE, especially in cold weather. In proportion as cold bathing is influential in the restoration of health when judiciously used, it is hurtful when resorted to without discrimination; and invalids, therefore, ought never to have recourse to it without the sanction of their professional advisers.

"Even where cold bathing is likely to be of service, when judiciously employed, much mischief often results from prolonging the immersion too long, or from resorting to it when the vital powers are too languid to admit of the necessary reaction—before breakfast, for example, or after fatigue. For this reason, many persons derive much benefit from bathing early in the forenoon, who, when they bathe in the morning before taking any sustenance, do not speedily recover their natural heat and elasticity of feeling.

"For those who are not robust, daily sponging of the body with cold water and vinegar, or with salt water, is the best substitute for the cold bath, and may be resorted to with safety and advantage in most states of the system; especially when care is taken to excite in the surface, by subsequent friction with the flesh-brush or hair-glove, the healthy glow of reaction. It then becomes an excellent preservative from the effects of changeable weather. When, however, a continued sensation of coldness or chill is perceptible over the body, sponging ought not to be persisted in: dry friction, aided by the tepid bath, is then greatly preferable, and often proves highly serviceable in keeping up the due action of the skin.

"For habitual use, the tepid or warm bath is certainly the safest and most valuable, especially during the autumn, winter, and spring, and for invalids. A temperature ranging from 85° to 98°, according to the state of the individual, is the most suitable; and the duration of the immersion may vary from fifteen minutes to an hour or more, according to circumstances. As a general rule, the water ought to be warm enough to feel pleasant without giving a positive sensation of heat; the degree at which this happens varies considerably, according to the constitution and to the state of health at the time. Sometimes, when the generation of animal heat is great, a bath at 95° will be felt disagreeably warm and relaxing; while, at another time, when the animal heat is produced in deficient quantity, the same temperature will cause a chilly sensation. The rule, then, is to avoid equally the positive impressions of heat and cold, and to seek the agreeable medium. A bath of the latter description is the reverse of relaxing; it gives a cheerful tone and activity to all the functions, and may be used every day, or on alternate days, for fifteen or twenty minutes, with much advantage.

"A person of sound health and strength may take a bath at any time, except immediately after meals. But the BEST time for valetudinarians is in the forenoon or evening, two or three hours after a moderate meal, when the system is invigorated by food, but not oppressed by the labor of digestion. When the bath is delayed till five or six hours after eating, delicate people sometimes become faint under its operation, and, from the absence of reaction, are rather weakened by the relaxation it then induces. As a general rule, active exertion ought to be avoided for an hour or two after using the warm or tepid bath; and, unless we wish to induce perspiration, it ought not to be

taken immediately before going to bed ; or if it is, it ought to be merely tepid, and not of too long duration.

"These rules apply, of course, only to persons in an ordinary state of health. If organic disease, headache, feverishness, constipation, or other ailment exist, bathing ought never to be employed without medical advice. When the stomach is disordered by bile, it also generally disagrees. But that it is a safe and valuable preservative of health in ordinary circumstances, and an active remedy in disease, is most certain. Instead of being dangerous by causing liability to cold, it is, when well managed, so much the reverse, that the author of these pages has used it much and successfully for the express purpose of diminishing such liability, both in himself and in others in whom the chest is delicate. In his own instance in particular, he is conscious of having derived much advantage from its regular employment, especially in the colder months of the year, during which he has uniformly found himself most effectually strengthened against the impression of cold, by repeating the bath at shorter intervals than usual.

"In many manufactories, where warm water is always obtainable, it would be of very great advantage to have a few baths erected for the use of the operatives. Not only would these be useful in promoting health and cleanliness, but they would, by their refreshing and soothing influence, diminish the craving for stimulus which leads so many to the gin-shop ; and, at the same time, calm the irritability of mind so apt to be induced by excessive labor. Where the trade is dirty, as many trades necessarily are, it is needless to say how conducive to health and comfort a tepid bath would be on quitting it for the day.

"On the Continent, the vapor and hot-air bath are had recourse to both as a means of health and in the cure of disease, to a vastly greater extent than they are in this country. Their use is attended by the very best effects, particularly in chronic ailments, and where the water-bath is felt to be oppressive by its weight ; and there can be no question that their action is chiefly on the skin, and through its medium on the nervous system. As a means of determining the blood to the surface, promoting cutaneous exhalation, and equalizing the circulation, they are second to no remedy now in use ; and consequently, in a variety of affections which the encouragement of these processes is calculated to relieve, they may be employed with every prospect of advantage. The prevalent fear of catching cold, which deters many from using the vapor-bath, even more than from warm bathing, is founded on a false analogy between its effects and those of profuse perspiration from exercise or illness. The latter weakens the body, and by diminishing the power of reaction, renders it susceptible of injury from sudden changes of temperature. But the effect of the vapor-bath properly administered is very different. When not too warm or too long continued, it increases instead of exhausting the strength, and, by exciting the vital action of the skin, gives rise to a power of reaction which enables it to resist cold better than before. This I have heard many patients remark ; and the fact is well exemplified in Russia and the North of Europe, where, in the depth of winter, it is not uncommon for the natives to rush out of a vapor-bath and roll themselves in the snow, and be refreshed by doing so ; whereas, were they to attempt such a practice after severe perspiration from

exercise, they would inevitably suffer. It is the previous stimulus given to the skin by the vapor-bath which is the real safeguard against the coldness of the snow.

"Common experience affords another illustration of the same principle. If, in a cold winter day, we chance to sit for some time in a room, imperfectly warmed, and feel in consequence a sensation of chilliness over the body, we are much more likely to catch cold on going out, than if we had been sitting in a room comfortably warm. In the latter case, the cutaneous circulation and nervous action go on vigorously; heat is freely generated, and the vital action of the skin is in its full force. The change to a lower temperature, if accompanied with exercise to keep up vitality, is then felt to be bracing and stimulating rather than disagreeable. But it is widely different when the surface is already chilled before going out. The vitality of the skin being diminished, reaction cannot follow additional exposure; the circulation leaves the surface and becomes still more internal; and if weakness exist in the throat or chest, cold is the almost certain result. Many suffer from ignorance of this principle.

"The vapor-bath is thus calculated to be extensively useful, both as a preservative and as a remedial agent. Many a cold and many a rheumatic attack, arising from checked perspiration or long exposure to the weather, might be nipped in the bud by its timely use. In chronic affections, not only of the skin itself, but of the internal organs with which the skin most closely sympathizes, as the stomach and intestines, the judicious application of the vapor-bath is productive of great relief. Even in chronic pulmonary complaints, it is, according to the continental physicians, not only safe, but very serviceable; particularly in those affections of the mucous membrane which resemble consumption in so many of their symptoms. Like all powerful remedies, however, the vapor-bath must be administered with proper regard to the condition and circumstances of the individual; and care must be taken to have the feet sufficiently warm during its use. If, from an irregular distribution of the steam, the feet be left cold, headache and flushing are almost sure to follow."

THE HAND bath is preferable to all others, because it is more easily applied; requires much bodily exertion, which facilitates the required reaction; and can be discontinued the instant a chilly sensation begins to supervene, beyond which no bath should ever be continued a single moment. Salt, vinegar, and other stimulants added to the water, facilitate this reaction, by exciting the skin, as does also sea-bathing, which, under certain circumstances, is most excellent.

142.—THE CURE OF COLDS BY PERSPIRATION; GLASS-BLOWERS.

OPENING THESE PORES, in the closing of which colds consist, can be effected in part by washing and rubbing, but *perspiration* forces them open more effectually than probably any other means whatever.

Indeed it is the great antidote of colds and their dread array of consequences. What induces it is immaterial, so that it is copious, and does not eventuate in another cold. Where the patient is able to exercise sufficiently to burst open these pores, whether he takes this exercise out of doors or in a warm or cold atmosphere, is not material, so that he induces it. In short, get into a dripping SWEAT, and then cool off without contracting more cold, and you will drive it off, as well as feel many fold better.

INCIPIENT COLDS, taken before they prostrate the system, can be broken up the best by drinking copiously of water, warm or cold, or of warm lemonade, or currant jelly and warm water, or warm composition tea, which is excellent to start perspiration, and then work right hard, almost violently, meanwhile pouring down one or another of these drinks by the quart. Do not overdo so as completely to exhaust, but only so as to secure profuse perspiration. This, together with the water, which, when taken in quantities, *must* have some exit, will re-open these closed pores, and prevent the disease. Warm herb teas will fill the place of water, yet are no better in their effects, and less liable to be taken, on account of their bitterness.

SOAKING THE FEET in hot water, and then toasting them on retiring, meanwhile drinking copiously as above directed, and then covering up extra warm; or even the extra drinking and covering, answer a like purpose; yet care must be taken to keep the extra clothes on, so as not to contract a new cold—the principal evil attendant on this simple and effectual cure. How many of us, while young, cured our cold thus? Day-time is best. Eat little or no breakfast, but drink copiously of cold water for an hour or two after rising, and when able to endure it, exercise vigorously, and then return to bed, cover up warm, and breathe,⁸⁵ sweat till your hands begin to shrivel. Sleep if you can. On rising, wash all over in sale-ratus water, rub dry and briskly, and keep in a gentle perspiration all day by exercise. Or eat little breakfast, and begin to drink and exercise about eleven A. M., and pursue the same course, omitting dinner, and eat only a light supper, or at least a light dinner, and very light supper, and retire early, or as soon after you have done exercise as possible, so as not to renew your cold.

THE WARM BATH, followed by friction and exercise, is also most excellent, and will generally prove efficacious. Yet here, too, care must be taken to guard against renewed colds, not by staying in the house, or muffling up, but by *exercise*, the very best means of inducing perspiration in the world, because the most natural.

THE WET SHEET is another excellent method, especially for those who are not able to exercise sufficiently to get up the required perspiration. Whatever secures copious perspiration breaks up cold, besides unloading the system of its obstructions and poisons. Evacuating the bowels, by injections, will facilitate, yet it is not indispensable. Vomiting, especially by drinking warm water, just at the lukewarm, sickening temperature, will render essential service. Hot bricks wrapped in wet cloths, and laid at the feet; sitting in a tub of right hot water, covered over with a bed-quilt to keep in the heat and steam; a rum sweat, produced by burning alcohol under a chair on which the patient sits, covered around the neck by a quilt; anything, everything which induces a profuse perspiration will rout these disease-breeders. Yet a dash of cold water over the body, to close these pores a little and cause reaction, should always follow all perspiration.

THE TURKISH BATH, rightly administered, is one of the best of all the baths, and will break up colds, chronic rheumatism, etc., and make one feel like a new being. It should be much more generally patronized than it is. For ladies, it is unrivalled, relieving their obstructions, nervousness, etc., remarkably. Yet it must always end with the plunge bath.

GLASS-BLOWERS furnish an excellent illustration of routing colds by inducing perspiration. Obligated to labor excessively hard, and around a furnace so extremely hot as to keep the material at a white heat, they of course sweat profusely, all their clothes being often wringing wet. Yet the sides of the building must be open to the wind, else they could not endure the heat an hour. And they go from their furnaces to their houses while thus perspiring, and hence often take severe colds one day, which, however, they generally sweat out the next, so that these repeated colds make but a short stay, and do little damage; simply because they expel them by inducing copious perspiration. This simple fact furnishes a valuable practical illustration of the true method of curing colds.

SPONTANEOUS perspiration is by far the best. Children often sweat freely while asleep, awaking only to call for water. This is a most favorable symptom; and the desired water should be freely administered till they wake up, when they should be washed off in saleratus water under bed-clothes, followed by friction and brisk play, so as to keep it up. Yet care should be taken not to contract additional cold.

BREAK UP COLDS BY STARTING THE SWEAT, by what means it matters little, so that it is copious, protracted, and not followed by more cold.

SECTION III.

SLEEP; ITS NECESSITY, OFFICE, AMOUNT, TIME, PROMOTION, ETC.

143.—INDISPENSABILITY, UNIVERSALITY, AND OFFICE OF SLEEP.

ALL THAT LIVES, sleeps.—All animals, from snail to man, all fish, fowls, and insects, sleep. Even all vegetables and trees sleep profoundly during winter, only to awaken with spring to renew their two great works, growth and reproduction; though the sleep of annuals is death. Dormancy is one of the attendants and even functions of life. A Scotchman in Boston, in 1843, claimed, no doubt sincerely, to have slept but once in seven years, yet was seen to assume an easy posture, close his eyes, nod, and appear, for all the world, just as others do when they doze.

A SLEEPING INSTINCT accompanies all life, which, at about equidistant intervals, *compels* not rest merely, but a suspension of consciousness in sleep proper. Rest is good, but insufficient without sleep. It precedes and accompanies sleep, but rest is one thing, and sleep quite another; sleep being much more than rest.

LOVE of sleep is quite as strong an instinct as love of food.⁴⁸ Those denied both a given length of time will starve rather than keep awake any longer in further search of food. This proves that sleeping is quite as important as eating.⁹⁰ Soldiers, wearied with long marches, *will have* sleep, though they know that, in stopping to take it, they will be taken prisoners, and *put to death*. In battle, with balls flying all around them, they must still sleep, despite the danger thereby incurred.

DORMITORIES occupy as much, and constitute as necessary, a part of our houses as both kitchen and parlor. Men provide for sleeping quite as much as for eating; that is, all make absolute provision for both, and accordingly, by common consent, suspend work to obtain it.

THE OFFICE of sleep must therefore be as absolutely necessary as this demand for it is both imperious and universal. *Precisely* what it accomplishes science has not yet declared, yet it probably both reoxy-

generates the blood, and accomplishes that *assimilation* and appropriation of food which renew the organism, ready for another effort. It is to life what re-loading a discharged gun is to its next discharge,—its *sine qua non*. This view is supported by these two facts, that we *breathe* more and deeper while asleep than ordinarily while awake, and that we *grow* during sleep, being nearly half an inch *taller* after than before a sound night's sleep, and everywhere plumper and larger; as well as by the fact that growing children and youth sleep the most and most soundly, while old people sleep the less, and less soundly; their sleep being more like an inane stupor than sweet sleep proper. All can observe that, just as they begin to go to sleep, they fill their lungs fuller, and empty them farther than before; which snoring also illustrates.

A SLEEPING FACULTY which creates this sleeping instinct, undoubtedly presides over this function as well as over Alimentation,⁷⁵ having of course its cerebral organ, which is probably located in the base of the brain, between Acquisition and Appetite and near Bibation. Still this opinion is partly conjectural, though in part experimental.

IN GREAT SLEEPERS and snorers it is large, and also in the young; but diminishes with age, and as the constitution wanes.

WAKEFULNESS is frequently consequent on nervousness, but oftener on stomachic inflammation, because this organ adjoins Appetite, so that one feels sleepy when Appetite is sated, and restless in dyspepsia. One of the chief evils of dyspepsia is this restlessness, produced by an inflamed stomach inflaming Appetite, and this its contiguous organ of Sleep. For a kindred reason an overloaded and oppressed stomach causes a stupid lethergy akin to sleep, by which the stomach relieves itself.

CORRUPT MATTER is cast off the most rapidly during sleep, as is evinced by the fetid, nauseating smell of bed-rooms and bed-clothes in the morning, and of all dark bed-rooms. It is awful, and reinforces their complete ventilation most effectually.⁸⁹

THE LUXURY of sound sleep is also one of the greatest proffered by their Good Father to man and beast. Though unconscious, yet we really *enjoy* a good sleep even more than “a square meal.” None should allow business, or anything, to curtail this luxury, and parents should promote it in children, instead of “drumming them out of bed early.” Indeed, the best way to do the greatest day's work possible, is to get a complete sleep the night before.

THE RESTORATIVE and invigorating effects of sleep are indeed a perpetual marvel. How refreshed it renders us in the morning, after being so tired the night before? How wonderfully a five minutes' nap sometimes enlivens and strengthens us, at least equalling a hearty meal in resupplying vitality. Work away with head, or hands, or both, if you will, just as long as you can sleep well, but stop working as soon as your sleep departs, or you will break down, or else become insane. Keeping well slept out and rested up, will add incalculably to your capacity to enjoy, endure, and accomplish; while promoting sleep, promotes all the other life functions. It completes the supply of vitality, probably by *appropriating* all its material to their respective uses.

THE CULTIVATION or promotion of sleep is as important as this function is imperious. Going to bed, and going to sleep are two very different things. Paradoxical as it may seem, restlessness is often a precursor and preparation for sleep. Your fevered stomach awakens you with some horrid dream, because Sleep lies along side of Appetite. You lie wide awake for hours, thinking of every thing unpleasant. Why? Because you have over eaten, and oppressed Nature must work off this surplus somehow, even, if she has to keep you awake thinking and feeling wildly while she does so. *After* she has thus "cleared the coast" you sleep all the better than you could otherwise have slept. Yet if you had not over eaten you could have slept from the first.

A RIGHT STATE OF THE STOMACH is the best of all promoters of sleep. Retiring with warm feet is another.

144.—ITS AMOUNT, DURATION, TIME, PROMOTION, BEDS, ETC.

GREAT WORKERS are always correspondingly great *sleepers*. Not that they always sleep very long, but always very *soundly*. To cut short the full time required for sleep, is to cut short one's *capacity* to work, and of course the work itself; while promoting sleep promotes power to work. Sleeping abundantly *saves* time. Wasting time in needed sleep is a misnomer. Yet we can over-sleep as well as over-eat and exercise. The due medium is the great desideratum. Physiologists differ as to the length of time required, and well they may, because different persons require different lengths, according to circumstances. Yet there is a right length, easily determined.

THE TIME spent in sleep furnishes no criterion of its amount, because some sleep more in an hour than others in a night. Some

may doze away half their time, yet be starved for sleep, while others sleep abundantly in six or seven hours, depending on its soundness and previous fatigue.

UNIMPAIRED constitutions sleep so soundly, that about seven hours in the twenty-four are sufficient, yet broken constitutions require eight, or more. Over-eating also demands additional sleep, as does excessive toil of any kind, of which all are experimental witnesses. All disorders of the stomach and nervous system also require additional time for sleep, because it is then less refreshing. Hence different and even the same persons require to sleep different lengths of time under different circumstances. Exceedingly active persons, who, when awake, are wide awake, require to sleep longer than those who are half asleep when awake. Convalescents also require to sleep more than usual. Each must judge for himself, while all should sleep enough, but none too much. Over-sleeping is as injurious as gluttony. How stupid, palsied, and good-for-nothing it renders one, as all can doubtless testify. Our own appetite for sleep, as for food, unperverted, furnishes us with an infallible guide.⁹³ Nature will rouse us to consciousness when our sleep is out; and, when thus summoned, all should spring at once from their couch. To hug the pillow, half asleep and half awake, is most pernicious, and, like over-eating, only craves the more, besides too often inducing, or at least facilitating, impure feelings.⁴⁶⁶⁻⁴⁷⁴ Would that the importance of rising immediately on waking could be duly impressed, especially on youth.

NIGHT is too obviously Nature's appointed time for sleep to require proof. All animals, fowls, and insects, except those expressly constituted to find their food by night, retire with the sun, but awaken with the first "peep of day." Not that all should sleep from evening till morning twilight, yet what time we do sleep, should be in the night, except in special cases. This sitting up half the night and sleeping half the next day, by reversing the order of Nature, must prove injurious. Extraordinaries excepted, all should rise with the lark, especially children, who should retire soon after the hens do. Better sleep mornings than too little; yet either retire the earlier, so as to have your sleep out at least by sunrise, or else take a short nap in the middle of the day. Those whose previously formed habits prevent their going to sleep early, even though they go to bed, should break up such habits. "Early to bed and early to rise," is the motto for health. The customs of society may sometimes require morning sleep by preventing a due degree of night sleep. Thus a public speaker

often finds his nerves so excited that, though he retires, the blood courses through his throbbing brain so as utterly to defy sleep, to compensate for which, he needs to sleep mornings.

NERVOUS persons, and especially excitable children, however, constitute an exception to this general rule. That such should retire and rise late is proved by this law: That the earth is charged with more positive electricity in the after part of the day than during any other portion of its diurnal revolution, is apparent, as is also its reason. This charges excitable persons positively; which makes them "work the best when the sun is in the west;" and their excitability continues into the earlier part of the night, which precludes early sleep. Hence the custom of sitting up late nights. Hence also most writers write best between two and eleven, P. M. Yet towards morning, when the earth has lost these stimulating sun rays, such become calmer, and sleep best in the later part of nights, and mornings. Excitable children should therefore on no account be roused from sleep to prepare for school, but left to sleep till noon if they like. Sleep whenever you can sleep best, but sleep abundantly.

TO PROMOTE sleep, then, is sometimes most important. Many cannot obtain enough. All preternatural excitements of the brain and nervous system prevent its due supply, as do mental troubles, over-exertion, disordered stomachs, and disease of any kind. In all these, and kindred cases, sleep should be promoted.

PREVIOUS PREPARATION is the starting point. As to enjoy a meal, we must first become hungry, and also prepare it, so we should sharpen up our sleeping appetite, and also prepare ourselves, mentally and physically, for this delightful repast and grand restorer of exhausted energy. This can be facilitated by a due degree of action, especially muscular. To overdo causes wakefulness, yet a due quantity of daily employment promotes refreshing sleep at night. Those who would enjoy sleep must exercise, especially those whose wakefulness is caused by nervous or cerebral excitability. They should also avoid excitement, and seek quiet in the evening before retiring, and reduce that cerebral action which keeps them awake. Becoming comfortably tired prepares for refreshing sleep.

THE WAKEFUL should especially go to bed soon after becoming drowsy, else they become wide awake, and remain so perhaps much of the night. This direction is particularly important. Yet going to bed only to lie awake, or before we are prepared for sleep, is also bad. We should try to go to sleep as soon as possible after going to bed.

AMUSEMENTS, especially domestic, if of a pleasing, soothing kind, also promote sleep, as playing with children, conversing with friends, and the like.⁵⁴⁹ But exhilarating, exciting amusements intercept it. Especially promotive of sleep is a quiet, happy frame of mind, while unpleasant feelings, especially anger, retard it, so that the former should always be cultivated, and the latter avoided, both in ourselves and children. "Let not the sun go down upon your wrath," is doubtless founded in this physiological law. Hence induce children to have a good play or frolic just before going to bed.

RELIGIOUS CONTEMPLATIONS and devotional exercises especially promote sleep, by diffusing over the soul a delightful quiet, a heavenly calmness, which invite it. A physician once directed a wakeful patient to THINK ON GOD, when he would, but could not sleep; and the patient said that for forty years, whenever wakefulness returned, following this prescription soon lulled him to sleep. Family devotion induces a similar preparation.²⁰⁰

MODERATE FASTING promotes sleep, while a full stomach retards it. The English think differently, and eat on retiring; but if a full stomach facilitates sleep, we should become hungry when we became sleepy, whereas sleep diminishes appetite. In fact we eat less when we sleep abundantly, and the more, the less we sleep.

INVALIDS, and the sick in particular, require to sleep much. As a restorative, medicines bear no comparison with sleep. Hence wakening the sick to give drugs is consummate folly. There is no better sign of a favorable turn of disease than natural sleep. A state of mere stupidity is a bad omen; yet differs materially from natural sleep.

BEING DISTURBED when once asleep, till fully rested, causes subsequent wakefulness. Many weakly mothers have ruined their health and lost their lives by crying children. Yet they can so train them as to sleep soundly all night, from infancy to maturity.⁶⁴⁰

DAY NAPS are also most excellent for invalids, children, and all who do not or cannot obtain sleep enough during the night. A mere doze is to such most refreshing. If you cannot get to sleep the first few times, keep trying till you can, and you will soon form the habit. Even if you do not lose yourself, the rest will benefit. And before dinner is much better than after.

THE MIDDLE STORY is immeasurably better for dormitory purposes than one directly under the roof, or on the ground floor, the former being too hot nights and cool mornings, and the latter too damp. But we shall treat domicils hereafter.²⁰⁰

THE BEST POSTURE for promoting sleep is doubtless recumbent on the back, unless Love is too excitable, because it facilitates respiration. Lying wholly on either side often causes the internal organs and even brain to sag and remain more on that side, which is evidently injurious. Habituate children to sleep on the back, and if on either side, also on both sides.

A SLIGHT ELEVATION of the head may be beneficial, yet habit aside, the horizontal posture for both head and body is probably the best.

BEDS AND BEDDING are important articles. Mattresses are preferable to feathers, because not soft enough to enervate, nor hard enough to give pain. Even those of straw are none too hard. Feathers are decidedly unwholesome, especially in summer, because animal matter; subject to decay; unpleasant in odor; vitiating to the air; relaxing and weakening; preventing the escape of perspiration; disturbing sleep, so that it fails to refresh; causing headache, and unfitting for business and pleasure; while cotton mattresses are excellent, and pronounced by Ellsworth in his Patent Office Reports "the most comfortable, and healthy material for bedding known to the civilized world. Vermin will not abide in them: unlike hair and wool they contain no grease, do not become stale, or acquire an unpleasant odor like feathers, besides being in many cases medicinal—raw cotton worn on parts affected with rheumatism being known to be one of the best and most effectual cures;"⁶⁴⁰ and as cheap again as any other kind, as seen in the following estimates:—

Cost of Hair Mattress, at 50 c. pr. lb., 30 a 40 lbs., from 15 to \$20	
" Wool " 30 c. " " cost " 11 to 12	
" Feathers " 30 c. " " 40 lbs., 12	
" Moss " — " " " 12	
" Cotton " 30 " 8 c., with cost of ticking	
at 12½ cents per yard, labor, thread, etc.	\$6 65

WOVEN WIRE mattresses are still better, and the best of all. They are manufactured by the Woven Wire Mattress company, of Hartford, Conn.; are remarkably elastic; yield to the least pressure, yet return to their original form the instant pressure is removed; need no shaking up; retain none of the fetid matter imbibed by all other mattresses; furnish no lodgment for vermin; never sag, nor wear out, nor get out of order, nor need repair; cannot burn; are absolutely noiseless; beautiful; cheap; need no slats or springs below, and only a quilt above; are easily transported; allow a light and heavy person

to sleep together without inconvenience ; and form a mattress *in every respect* ABSOLUTELY PERFECT. We say all this *experimentally*, and most unqualifiedly recommend them above all other kinds for use in families, hotels, vessels, hospitals, and everywhere. Those long bed-ridden could never become sore on them. All this holds equally true of the wire pillows made on this principle.

A STACK OF BED-CLOTHES is also as pernicious as a superabundance of clothes by day.¹³⁶ They prevent sleep, and retain about the body all the corrupt effluvia it throws off, which should be allowed to escape. None should sleep cold, yet all should habituate themselves to as little as possible and keep comfortable. During the day, these clothes should be thrown upon the backs of chairs, and thoroughly aired in a draught till towards evening.

COVERING UP THE HEAD under bed-clothes is most pernicious. One may almost as well not breathe at all as to breathe over and over again the same fetid air.⁸⁰

PILLOWS are usually so thick as to cause a bend at the neck, and thus retard the free passage of the air during sleep. This greatly increases the snoring. All Eastern nations use a small block, having a hollow place in it fitted to the head, raising it sufficiently to make it horizontal with the body. All pillows should be thin, or else one should be laid *lengthwise* of the body, so as to avoid a short curve at the neck. Let the head, neck, and body be parallel to each other, in sleeping as in standing.

CHAPTER V.

THE MOTIVE AND NERVOUS APPARATUS, AND FUNCTIONS.

SECTION I.

THE OSSEOUS AND MUSCULAR SYSTEMS.

145.—THE HUMAN SKELETON.

THE EXPENDITURE of this vitality, thus manufactured, and otherwise useless, completes and fulfils the glorious destiny of existence. Vital force is like raw material, or "stock" to the mechanic, which when procured, next requires to be *worked up* into the various ends of life, or it will avail nothing. For this expenditure Nature has made provisions quite as ample as for its supply, in two ways, motion, and the mentality, sensation included. To subserve these two ends, the entire human structure, the inimitably beautiful vital apparatus included, was created.

WITHOUT MOTION, man must always have remained in one place, like the oyster, and been incapable of speaking, eating, or doing anything; and without mind and sensation, he would have been incapable of experiencing one single emotion of pleasure or pain; but behold and admire the number and variety of functions effected through their *united* instrumentality! In fact they embody all the ends of being.

ORGANS adapted thereto are necessary to effect these great ends. These organs consist of the osseous, muscular, nervous, and cerebral systems, to the discussion of which our subject now brings us.

BONES form the timbers of this human superstructure. But for some framework within the body, both to keep the various organs in place, and to form, as it were, timbers or fulcrums for the attachment of muscles, motion would be impossible. The first provision of a motive apparatus consists in devising these supporting timbers. Bones constitute such a provision. With their general appearance all are familiar. They are composed principally of two substances, animal and earthy, into the latter of which lime and phosphorus enter—the

former imparting life, and the latter firmness. In youth the animal part predominates, and hence the greater flexibility of young bones, in order to prevent fractures, aid in breaking falls, and facilitate growth; it being the first part of the bone formed, as seen in the tender cartilages of chicken bones. But as age advances, this earthy material predominates over the animal, because the muscles, having become stronger, require augmented stiffness to prevent their bending, while experience guards against falls. They become more and more brittle with age, and hence their greater frangibility, till, in a certain disease which consumes their animal matter, they break from slight strains; whereas, in another disease which consumes their earthy matter, but leaves their gelatinous, they can be bent any way, and even tied up in knots without breaking; yet in this case motion is impossible. These bones are also permeated with blood-vessels and nerves, the former to supply growth and vitality, and the latter to impart sensation.

THEY NUMBER two hundred and fifty-two, instead of being one solid mass, are united by joints, and held together by powerful ligaments. At these joints, the bones enlarge, and become spongy, though the weight of their ends is not greater than that of their middle portions, which, together with an elastic plating between them, serves to deaden the blows of a fall or jump upon the feet, so that, before it reaches the brain, it is comparatively obviated, and that delicate structure saved from contusion. Throw two hundred pounds down ten feet, a distance we often jump, and how hard it strikes! Not so with man. A membrane is also stationed at all the joints to secrete an oleaginous substance more slippery than oil, to lubricate them, and prevent their wearing out by the powerful and almost perpetual friction occasioned by muscular contraction and the weight of the body, and to render motion easy.

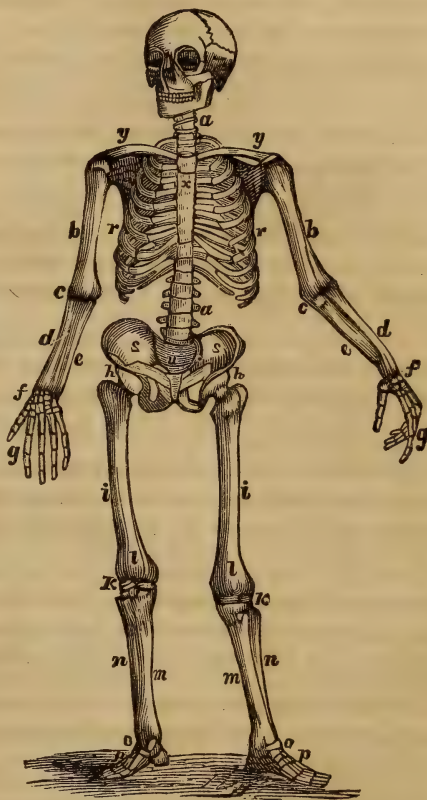
POWERFUL CORDS tie them together at these joints, so as to resist their tendency, when the muscles contract powerfully upon them, to slip past each other, and prevent sprains and dislocations, the evils of which many experience. They are fitted into one another by *hinges*, a ridge in one exactly fitting into a corresponding depression in the other, or the *ball and socket* joints, as in those of the hips and shoulders, where a ball in one fits exactly into a socket in the other, so as to allow motion in all directions.

LIKE BONES are always found in similar positions, not scattered about at random, exactly fitted to subserve their respective ends.

Thus attached they constitute the human SKELETON, or framework of the body, as represented in the accompanying engraving, which, with its description, is copied from A. Combe.

“The TRUNK, as will be seen from the annexed engraving, consists of the SPINE *a a*, the RIBS *r r*, the STERNUM *x*, and the PELVIS *s s*. The spine vertebral column, or backbone *a a*, which supports all the upper parts, is a very remarkable piece of mechanism. It is composed in all of twenty-four separate bones, called VERTEBRÆ, from the Latin VERTERE, to turn, as the body turns upon them as on a pivot. Of these, seven, called CERVICAL VERTEBRÆ, belong to the neck; twelve connected with the ribs, and called DORSAL, to the back; and five, called LUMBAR, to the loins. The base of the column rests on the SACRUM *w*, which is closely compacted between the bones of the pelvis *s s*. The vertebræ are firmly bound to each other in such a way as to admit of flexion and extension and a certain degree of rotation, while, by their solidity and firm attachment to each other, great strength is secured. Some conception of this strength may be formed, when we consider the enormous loads which some athletic men are able to carry on their shoulders, or raise in their hands; the whole weight of which is necessarily borne by the vertebræ of the loins. As the space occupied by the abdomen gives large outward dimensions to this region of the body, it is only upon reflection that we perceive that the whole force exerted by the human frame in its most strenuous efforts centres in the bony column we are now examining.

“While the smooth or rounded forepart, or BODY of the vertebræ, affords support to the superincumbent parts, the projecting ridge behind, and rugged processes at the sides, combine with it to form a large tube or canal, extending from the top to the bottom of the column, and in which the spinal marrow is contained and protected. Between each of the vertebræ a thick compressible cushion of cartilage and ligament is interposed, which serves the triple purpose of uniting the



No. 111.—THE SKELETON.

bones to each other, of diminishing and diffusing shocks received in walking or leaping, and of admitting a greater extent of motion than if the bones were in more immediate contact.

"The ribs *r r*, twelve in number on each side, are attached by their heads to the spine, and by their other (cartilaginous) extremities to the STERNUM, or breast bone *x*. The seven uppermost are called true ribs, because each of them is connected directly with the sternum, by means of a separate cartilage. The five lower ribs are called FALSE, because one or two of them are loose at one end, and the cartilages of the rest run into each other, instead of being separately prolonged to the breast bone. The use of the ribs is to form the cavity of the chest for the reception and protection of the lungs, heart, and great blood-vessels, and to assist in respiration, by their alternate rising and falling. This action enlarges and diminishes by turns the size of the chest and the capacity of the lungs.

"The PELVIS *s s*, is formed by the broad, flat bones which support the bowels, and serve for the articulation of the thigh. A general notion of their appearance and uses may be obtained from inspection of the engraving, which, however, does not represent with perfect accuracy the minuter structure.

"The bones of the UPPER EXTREMITIES are, the SCAPULA or shoulder blade; the CLAVICLE, or collar bone *y*; the HUMERUS, or arm-bone *b*; the RADIUS *d*, and ULNA *e*, or bones of the forearm; and the small CARPAL and METACARPAL bones *f*, and PHALANGES *g*, forming the wrist, hand, and fingers.

"The SCAPULA is the broad flat bone lying at the upper part of the back, familiarly known as the shoulder-blade, and so troublesome to many young ladies by its unseemly projection. It serves to connect the arm with the trunk of the body, and gives origin to many of the muscles by which the former is put in motion. The COLLAR-BONE *y*, extends from the breast bone outwards to the scapula. Its chief use is to prevent the arms from falling forward in front of the body; and hence it is wanting in the lower animals, whose superior extremities are much closer to each other than those of man.

"The HUMERUS, or arm-bone *b*, is adapted by a kind of ball and socket joint to a corresponding surface in the scapula, and hence enjoys great latitude of motion, and, from the shallowness of the receptacle, is somewhat liable to dislocation. The RADIUS and ULNA *d e*, constituting the forearm, are connected with the humerus by a hinge-like joint, which admits readily of flexion and extension, but not of rotation; and as the articulation is of a peculiar construction, it is rarely dislocated. The movements of pronation and supination, or turning round the hand, are effected, not by the elbow joint, but by the radius *d* moving upon the ulna *e*, by means of joints formed for this purpose. The wrist and finger-joints are too complicated to admit of explanation here.

"The lower extremities consist of the OS FEMORIS, or thigh-bone *i*; the PATELLA, or knee-pan *l*; the TIBIA *m*, and FIBULA *n*, or leg-bones; and the TARSAL and METATARSAL bones *o*, and PHALANGES *p*, composing the ankle, foot, and toes.

"The thigh-bone *i*, is articulated by means of a large round head,

deeply sunk into a corresponding hollow in the pelvis, at *h*; freedom of motion being thus combined with great security. The thigh may be moved backwards and forwards as in walking, and also outwards and inwards, as when sitting on horseback, or with the legs crossed. The socket being much deeper than that of the shoulder-joint, the thigh-bone has not the same range of motion as the humerus, but it has proportionally greater security.

"The PATELLA, or knee-pan *l*, is well known. It is a small bone, constituting the projection of the knee. It increases the power of the muscles which extend the leg, and protects the front of the knee-joint. The TIBIA *m* is the principal bone of the leg, and is the only one articulated with that of the thigh. Its lower end forms the projection at the inner ankle. The FIBULA *n* is the long slender bone at the outer side of the leg, the lower end of which forms the outer ankle. The TIBIA and FIBULA both contribute to the formation of the ankle-joint, which, like that of the knee, is almost limited to flexion and extension."

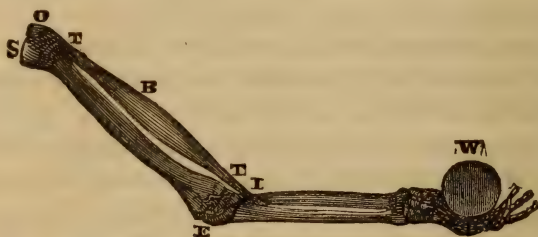
146.—THE MUSCLES, THEIR NECESSITY, STRUCTURE, AND MODE OF ACTION.

ROPES AND PULLEYS, or their muscular equivalents, now become necessary in order to put these bones in motion. Without them this beautiful structure of bones and joints, every way so perfectly adapted to serve as a foundation for the motive apparatus, would be as inert as so many sticks. MUSCLES supply this want. They lie beneath the skin, upon and around the bones, and constitute the red meat of animals and man. Every human being is endowed with some five hundred and twenty-seven, of all required shapes and sizes, exactly adapted to produce all those innumerable and most powerful motions of which man is capable. They overlap, underlie, and interweave each other in all conceivable ways, and are enclosed in a smooth peritoneal membrane, which allows them to slide upon each other without friction, else their powerful contraction would soon wear them into shreds. They are composed of innumerable strings or fibres, bound together into one common bundle, the contracting or shortening of which effects motion. Indeed, this contractile power constitutes their sole function, and is caused by an expenditure of vital force, thus: As one end of these several muscles is attached to one bone, and the other to another across a joint, their contraction moves one or the other of these bones or both, which of course produces motion. This is illustrated more fully in the following engraving and description.

MUSCLES are largest in their middle, that part which contracts, and taper off into TENDONS, those strong cords seen in the wrists, backs of

the hands, insteps, above the heels, etc., many muscles being attached to a single bone, else the size of the bones must have been bunglingly large. The strength of those cords is tested by hanging slaughtered animals up on sticks thrust under them, and also by the tenacity with which they adhere to the bones, as well as by our ability to stand on one foot and toss the body about by one of these tendons—that of Achilles, at the heel. Their attachment is formed on processes or ridges in the bones, or on their heads near joints, which are the larger the more powerful the muscles.

MOST of our motions are effected by many bones, joints, and muscles acting in concert. Thus simply lifting the hand, is done by the combined motions of the wrist, elbow, and shoulder; and in walking, apparently so easy, nearly all the muscles and bones of the body are brought into requisition; so much so that even tying the hands greatly impeded it.



No. 112.—THE MUSCLES OF THE ARM.

The figure represents the bones of the arm and hand, having all the soft parts dissected off, except one muscle O B I, of which the function is to bend the arm. O the origin of the muscle; B the belly; I the insertion; T T the tendons; S the shoulder-joint; E the elbow. When the belly contracts, the lower extremity of the muscle I, is brought nearer to the origin, or fixed point O, and by thus bending the arm at the elbow-joint, raises up the weight W, placed in the hand. A motion of an inch at I, causes a motion of fifteen to twenty inches at W.

A COMMANDANT or head centre of all these muscles by means of which any or all, as occasion may require, may be brought into action, becomes indispensable to their concerted action. The mind controls them; therefore some mental *Faculty* must exist to manage this specific class of functions; and this Faculty must needs have and has its cerebral organ, which we christen MOTION. It is located in the cerebellum, close by Love, and between its two lobes, at the nape of the neck. This is proved by its natural language thus: 1. In all severe

muscular exertion, as in lifting, we naturally cant the head straight back on the neck. 2. The motor nerves emanate from the brain here. 3. Cutting out that part of the brain of animals destroys all power of concerted motion, it being purposeless and spasmodic. 4. Motive power is proportionate to the prominence of the occipital spinalis, that sharp bony knot found at the nape of the neck, where those muscles which move the head back are attached to the skull. This organ is right *under* this process in the brain, and pushes it back in proportion to its size. Strong posterior neck muscles both indicate correspondingly strong muscles throughout,⁵³ and also enlarge this process where they fasten themselves to the head, so that the prominence of this spinous process admeasures the muscular power by two means, the size of this cerebral organ of motion, and of the muscles themselves at their attachments. For thirty years I have familiarly called it walkativeness, workativeness, etc., because it indicates a corresponding ease and love of motion, a desire to be always doing, a natural love and endurance of work, and a stringy fibrous brain, and therefore *power* of muscle, constitution, feeling, and intellect; and as such is one of the best of organic signs.

THE ST. VITUS DANCE, consequent on this Faculty having lost its wonted control, is produced by Will restraining or resisting tendency to motion till it breaks from this control. Thus obliging a restless child, dying for motion, to keep still as in school, compels these muscles to break from this restraint, or else suffer a worse injury. Exercise, and a wet cloth at the nape of the neck, with electricity and animal magnetism applied just above the nape of the neck, constitute its best cures.

THEIR MANNER of producing their respective motions, are seen in the following engraving and description, copied from Combe.

"To understand the uses of the various muscles, the reader has only to bear in mind that the object of muscular contraction is simply to bring the two ends of the muscle, and the parts to which they are attached, nearer to each other,—the more movable being always carried towards the more fixed point. Thus when the STERNO-MASTOID muscle *f g* contracts, its extremities approximate, and the head, being the movable point, is pulled down and turned to one side. This may be easily seen in the living subject, the muscle being not less conspicuous than beautiful in its outline. Again, when the powerful RECTUS or straight muscle *b*, on the front of the thigh, contracts with force, as in the act of kicking, its lower end attached to the knee-pan and leg, tends to approximate to the upper, or more fixed point, and pulls the leg strongly forwards. This occurs also in walking. But when the SARTORIUS, or tailor's muscle *c* is put in action, its course being

oblique, the movement of the leg is no longer in a cross direction, like that in which tailors sit; and hence the name *SARTORIUS*.

"Another variety of effect occurs, when, as in the *RECTUS* or straight muscle of the belly *i i*, sometimes one end and sometimes both are the fixed points. When the lower end is fixed, the muscle bends the body forward, and pulls down the bones of the chest. When, as more rarely happens, the lower end is the movable point, the effect is to bring forward and raise the pelvis and inferior extremities; and when both ends are rendered immovable, the contraction of the muscle tends to compress and diminish the size of the cavity of the belly, and thus not only assists the natural evacuations, but co-operates in the function of respiration.



NO. 113.—THE MUSCLES.

"In contemplating this arrangement, it is impossible not to be struck with the consummate skill with which every act of every organ is turned to account. When the chest is expanded by a full inspiration, the bowels are pushed downwards and forwards to make way for the lungs; when the air is again expelled, and the cavity of the chest diminished the very muscles *i i i*, which effect this by pulling down the ribs, contract upon the bowels also,—pushing them upwards and inwards, as can be plainly perceived by any one who attends to his own breathing. By this contrivance, a gentle and constant impulse is given to the stomach and bowels, which is of great importance to the mind, contributing to digestion and in propelling their contents; and one cause of the costiveness, with which sedentary people are so habitually annoyed, is the diminution of this natural motion in consequence of bodily inactivity."

147.—THE POWER OF THE MUSCULAR SYSTEM.

THE NUMBER, variety, and power of the motions capable of being produced by these muscles are indeed most wonderful, as all have seen and experienced. They enable us to climb the lofty tree, and even the smooth pole of liberty; to mount the towering mast, and both support ourselves in the rigging of the ship, yet put forth great muscular exertion while she is tossing and rolling, even in the hurricane. Standing upon our feet, we can toss our bodies, weighing from one hundred to two hundred pounds, several feet upward and forwards,

and in all directions, for many hours in succession, as in dancing and the circus. We can transport it fifty or sixty miles between sun and sun, even carrying many pounds weight upon our backs; chase down the fleetest animal that runs; labor briskly every day, for scores of years; lift and carry several times our own weight; accomplish a multiplicity of powerful and protracted bodily exertions; and do a variety and amount of things almost without end.

"The muscular power of the human body is indeed wonderful. A Turkish porter will trot at a rapid pace, carrying a weight of six hundred pounds. Milo, a celebrated athlete from Crotona, accustomed himself to carry the greatest burdens, and by degrees became a monster in strength. It is said that he carried on his shoulder an ox, four years old, weighing upwards of one thousand pounds, for above forty yards, and afterwards killed it with one blow of his fist. He was seven times crowned at the Pythian games, and six at the Olympian. He presented himself the seventh time, but no one had the courage to enter the lists against him. He was one of the disciples of Pythagoras, and to his uncommon strength the learned preceptor and his pupils owe their lives. The pillar which supported the roof of the school suddenly gave way, but Milo supported the whole weight of the building, and gave the philosopher time to escape. In his old age, Milo attempted to pull up a tree by its roots and break it. He partly effected it, but his strength being gradually exhausted, the tree, when cleft, re-united, and left his hand pinched in the body of it. He was then alone, and, being unable to disengage himself, died in that position.

"Haller mentioned that he saw a man, whose finger being caught in a chain at the bottom of a mine, by keeping it forcibly bent, supported by that means the weight of his whole body, one hundred and fifty pounds, until he was drawn up to the surface, a height of six hundred feet.

"Augustus XI., King of Poland, could roll up a silver plate like a sheet of paper, and twist the strongest horseshoe asunder.

"A Frenchman who was attached to Rockwell & Stone's circus resisted the united strength of four horses, as was witnessed by thousands.

"A lion left the impression of his teeth upon a piece of solid iron.

"The most prodigious power of muscle is exhibited by fish. The whale moves through the dense medium of water with a velocity sufficient to carry him, if continued at the same rate, round the world in little less than a fortnight; and a sword-fish often strikes his weapon quite through the oak planks of a ship."—*Western Literary Messenger*.

THE STUART family were most remarkable for great physical strength, which harmonizes with the principle that all distinguished men are both from strong-constituted and long-lived families.

"THE LAST OF THE STUARTS is one hundred and fifteen years old. Hundreds of persons can bear testimony to his amazing strength, from

which circumstance he got the by-name of 'Jemmy Strength.' Among other feats he could carry a twenty-four pounder cannon, and has been known to lift a cart-load of hay, weighing a ton and a half, upon his back. Many a time has he taken up a jackass, and walked through the toll-bar, carrying it loaded on his shoulders. It will be long before we can look upon his like again, to hear of his stories of 1745, and his glowing descriptions of the young chevalier."—*A Scotch paper.*

JONATHAN FOWLER, of Guilford, Conn., one of my ancestors, walked out knee-deep through the mud, oyster-shells, and filth of a sea-shore at low tide, to a shark left by the retiring tide in a pool, captured it while yet alive, though it was weakened by having but a scanty supply of water, shouldered it, and *brought it alive* on his back to the shore, which weighed five hundred pounds!—quite a load, considering that it was not the most portable of articles, nor the best of roads. Being a champion wrestler, never worsted, he invited another wrestler, who had come hundreds of miles to throw him, to follow him and take a drink of cider before commencing, when, grasping a full barrel by its chimes, he raised it to his mouth, drank out of its bung, and set it down at arm's length, telling his rival to help himself; but he could not, and gave up, beat without a trial. The feats of the Ravel family, Bedouin Arabs, and circus performers, astonish us.

Yet these and kindred exhibitions of strength are by no means the ultimatum of man's muscular capability. A due degree of *training* would enable him to accomplish much more. He is Lilliputian in comparison with what he will yet become. Most exalted are his innate muscular powers. He might vie with the lion himself as to absolute strength, and carry heavier burdens than horses. Indeed, Turkish porters now transport six and eight hundred pounds at a time on their backs with ease, and the Belgian giant could stand up under *two tons*. The Chinese have no horses, and carry their teas and silks between two men, hundreds of miles, on their backs! If man can effect all he now does without either muscular discipline or the application of the laws of hereditary descent, how much more with? The human race is yet in its teens in everything,⁵¹⁶ muscular capability included. We little realize the extent to which it can be carried *in our own selves*, if properly disciplined.⁶²

SECTION II.

EXERCISE; ITS VALUE, BEST MODES, AND THE LIFTING CURE.

148.—ITS BENEFITS, PLEASURES, CURES, ETC.

THIS MOTIVE APPARATUS, so perfect, so powerful, was created not to lie dormant, but to be used. Almost innumerable arrangements in Nature *compel* such exercise. Man is ordained to use his muscles in tilling the soil, in procuring food; moving from place to place; making and working machinery; using tools; building; printing; making that vast variety and quantity of articles of clothing, furniture, ornament, and all the innumerable things needed by mankind; and even in reading, writing, eating, walking, talking, looking, breathing, and all those millions of ends, great, little, and almost infinitely diversified, requiring locomotion, which every member of the human family is compelled to put forth continually through life.

EXERCISE PROMOTES RESPIRATION,⁷⁹ perspiration,¹³⁹ circulation,¹³⁰ sleep,¹⁴³ and all the other physical functions, and renders the veins prominent and hard, on account of the increased passage of blood through them; which is never found in the indolent, except in fevers. Who does not know that a smart lift, work, run, or vigorous exercise of any kind, increases the frequency and power of the pulse, as well as the rapidity and volume of the inspirations? That it equally accelerates the perspiration, all are witnesses. Who has not seen the sweat run down in streams from all parts of the body during hard labor? And who does not know how much more heartily we eat, and sweetly and soundly we sleep, with than without work? Nor is there an important function of our nature which muscular exercise does not promote, and inaction intercept. By enhancing respiration, it augments the amount of oxygen, carbon, fibrine, gluten, and caseine consumed, indeed of all the materials derived from food and breath, and also greatly increases the expulsion of all noxious matter from the system in the form of phlegm, perspiration, and respiration. Besides promoting circulation by increasing the introduction of oxygen,⁸² it still further increases the flow of blood, by pressing it along through the veins, for the contraction of the muscles upon them urges their contents forward—backward it cannot go¹³⁰—towards the heart. Exercise also quickens the action of the bowels and of the digestive process generally. All these functions, constituting no small portion

of life itself, labor enhances, and thus augments life and all its pleasures and powers. In short, muscular action promotes every function and power, mental and physical, of our entire nature, besides being indispensable to all. He who does not work can enjoy only a low degree of life and its pleasures; muscular inaction deteriorating, diseasing, and vitiating the entire man and woman. Severe and protracted diarrhœa has been cured instantly and effectually by one vigorous lift. Nature still further commands muscular action by—

ITS PLEASURES. How painful is confinement, but how pleasurable is action! How confined animals, when let loose, run, jump, prance, caper, and frisk about as if they could scarcely contain themselves! How ecstatically happy we feel on going out after remaining inactive for a time! None can keep still without pain, till enfeebled or diseased by inertia. How ecstatic the play-spell pleasures of youth! so much so that they cannot be kept still. Action is constitutionally most pleasurable, because it fulfils, and idleness painful, because it violates, a paramount natural law. How good a brisk walk, ride, dance, hunt, row, etc., make us feel! The sedentary little realize the pleasures they forego, both in want of action, and in thereby diminishing the pleasures of eating, sleeping, breathing and living. "He that will not work, neither shall he eat," nor enjoy the other physical pleasures. Those who work, both eat much more, and enjoy what they eat with a relish unknown to the inert. A poor laborer need not envy the rich their dainties, for they eat with little, he with great, Epicurean zest. No kind of play, neither riding, dancing, playing ball, nor any other kind of exercise for amusement, yields the real zest of working. To be truly happy in action we must *do* something useful. You may play, dance, even hunt, but let me *work*—achieve some useful *end*—plant, tend, raise edibles, and produce something beneficial.

LABOR hardens the muscles and tones up the entire system, brain included. Most great men labored hard while young; and nearly all geniuses were raised on right *hard* work. Adam Clarke was noted, when at school, for his great physical strength in rolling stones. Shakespeare, while composing his immortal plays, carried brick and mortar to build places for their performance. John Wesley rode and walked a great many thousand miles, and it was this habitual exercise which fitted his gigantic intellect to put forth those mighty efforts which enabled him to do so much good, and immortalize his name. Clay was a poor boy, and actually worked for a living. Henry Bas-

com, the great Western orator, travelled west *on foot*, with his axe on his shoulders. The old Roman and Grecian orators took a great amount of exercise in order to prepare themselves for public speaking, and put in practice one fundamental principle, we moderns, with all our boasted light and inventions, ignore—that of strengthening the voice by gymnastic exercises. No one can have a good voice without having a good muscular system; and hence, improving the tone of the latter, augments the power of the former—an additional reason why public speakers should labor. Sir Walter Scott, after confining himself to his desk for several days, till the energies of his brain had become exhausted, would mount his horse, call out his dogs, and follow the chase for days in succession, till he had restored his prostrated energies, and then return to his study. Byron when he entered college, fearing lest his tendency to corpulency would injure his personal beauty, of which he was very proud, took extremely severe exercise daily in order to reduce it, besides leading a very abstemious life. Webster, in his Saratoga speech, in 1844, boasted that he was a backwoodsman, born in a “log cabin,” on the borders of the unbroken forest, and inured to hard labor. And often, breaking away from public life, and shouldering his gun, he ranged forests or marshes for days in search of game, besides taking much exercise daily. Franklin, the beacon-star of his profession, a practical printer, was a hard worker. Patrick Henry, that unrivalled star of genius and eloquence, labored on the farm while young, and was passionately fond of music, dancing, and the chase; the latter of which he often followed for weeks together, camping out in true hunter’s style.

“After his removal to Louisa, he has been known to hunt deer, frequently for several days together, carrying his provision with him, and at night encamping in the woods. After the hunt was over, he would go from the ground to Louisa court, clad in a coarse cloth coat, stained with all the trophies of the chase, greasy leather breeches, ornamented in the same way, leggings for boots, and a pair of saddle-bags on his arm. Thus accoutred, he would enter the courthouse, take up the first of his causes that chanced to be called; and if there was any scope for his peculiar talent, throw his adversary into the background, and astonish both court and jury by the powerful effusions of his natural eloquence.”—*Wirt’s Life of Patrick Henry*.

THE FATHER OF THIS COUNTRY, its pride and pattern, when not officially employed, labored assiduously upon his farm; and was actually driving his plough when he received the news of his election as president. Harrison, “the *farmer* of North Bend,” led a life of great

physical exertion and exposure. Burns, the Scottish bard, actually composed much of his poetry when at work on a farm. President Dwight, the great theologian and scholar, attributed much of his mental vigor to daily labor in his garden. John Quincy Adams, one of the most learned men of his age, said he found much daily exercise indispensable. Those students who have been brought up without having labored, seldom take a high intellectual stand, except in parrot-like scholarship. They always show a want of mental vim and pith, and the powers of close, hard thinking, and rarely rise to eminence. Thank God if you were obliged to *work* hard and constantly till sixteen. The Author leaving home with only four dollars, with his all upon his back, travelled *four hundred miles*, *worked* his way to college, and through college, and, instead of earning his money by teaching school, supported himself by sawing, splitting, and carrying up the wood of his fellow-students, *three and four flights of stairs*, improving in this way every hour, except study hours, and often portions of the night. His fellow-students laughed at him then, but now the scales are turned. He thought it a hard row to hoe, but a rich harvest has it yielded ; and you, reader, owe to this same cause no small portion of whatever delight or benefit his lectures, writings, and examinations afford. Nor has anything done more to restore the health thus impaired than a return to work. Pardon this personal allusion, but profit by the lesson it teaches. Reader, be your occupation what it may, pleasure or business, mental discipline or professional attainments, *work hard*, *daily* two or more hours, and you will accomplish more study, despatch more business, and perform and enjoy more in whatever you engage ten to one, than by perpetual application. The best time to write is after exercise. As the bow always bent loses its elasticity ; so continued application either exhausts or disorders the brain and impedes mental energy and discipline, which daily labor will wonderfully promote. Ye who aspire after renown, *work*. Ye who would do good, *work*. Ye who would fulfil man's great terrestrial destiny of being happy, *labor daily*. And ye who are too proud or too lazy to work, be content to suffer ; you violate a cardinal law of your being.

THIS ANTI-WORKING *Doctrine and Practice* has done incalculable damage to mankind. Words cannot portray its evils. Labor is a blessing to be enjoyed, not a curse to be avoided ; and honorable, not disgraceful. Those who think themselves too good to work are in reality below it. None can ever be above labor, without being above Nature and God. Shall the Almighty Maker of all things not only

work in creation, "from everlasting to everlasting," and shall man, "the work of his hands," be above his Maker? That human being is no man, no woman, only some paltry thing, who is too proud to do something useful. "To till the earth and to keep it," is an honor, not a disgrace—is to become "co-workers with God," not menials. Those who are too proud to labor, ought, in all consistency, to be too proud to breathe and eat; because the former is quite as much a constitutional function and demand of Nature as the latter. Ashamed to be seen at work? As well be ashamed to look, or talk! Away with this dogma that labor degrades. It elevates and ennobles, Its influence upon the mind is most beneficial. It begets a resolution and energy of character, that which infuses *power* into all our feelings and conduct indispensable to success. Its perpetual grappling with difficulties in overcoming obstacles inspires and cultivates a firmness and determination imparted by nothing else. Hence youth brought up to do no work, fail to cope with difficulties, but yield to them through life, and of course accomplish little. This shows why rich juveniles make such poor scholars. Boys had better be street scavengers, and girls kitchen drudges, than brought up inert; for no kind or amount of work is as bad as idleness. Excessive toil injures, but *some* sort of work benefits. Play is good for children, but not enough. They must learn, by toiling through those opposing obstacles the removal of which constitutes labor, to grapple in with all kinds of difficulties with that determined resolution which says in action, "I can and I will;" "Get out of my way or I'll get you out." Yet parents seem to vie with each other who shall support their children the idlest. One of the greatest errors of the day is, that labor is the business of drudges, and degrades; the wrong inflicted on workers, great as it often is, being trifling compared with the depravity and suffering which this antiworking tendency does so much to rivet upon the elite.

Inaction inflicts its own curse. Those thus brought up turn out to be inefficient, and often vicious. This explains the palpable fact of the prevalence of vice among the rich. Those who have the wealth of Astor should make their children work; not by forcing them, for this might make them hate it, but by enamouring them of it.

Fashionable city ladies, generally homely, because indolent and sickly, so extra exquisite that they must never soil their soft hands by doing the least thing about house; too nice, delicate, refined, genteel, and senseless to do so vulgar a thing as to work; barely able to

endure a fashionable promenade once in a while, and an occasional "airing" in the easiest riding carriage, and so very genteel that they must ride to church, though only two or three blocks off! should have a patent machine, by which their servants can chew their food and pump breath into them without any effort of their own, so as to place them at a still greater remove from labor! And their extra delicate and helpless children should lay down, and lie there all their lives, and save the trouble even of eating by letting pap drop into their open mouths, and run down their tiny throats of itself!

MANY POOR BUT PROUD pretenders to gentility, who have scarcely enough to eat, yet would fain make a genteel appearance by starving the kitchen to feed the parlor, if accidentally caught in kitchen habiliments, must blush, and apologize, and falsify outright by pretending that their servant has just left, and they had to prepare dinner. Out upon that proud nothingness which has to work, yet lies to hide it! This anti-working pride is contemptible in the rich, but in such intolerable! What! Begging pardon for obeying the laws of your being! What greater sign of littleness! Away toad-stool grandees, into merited insignificance! Come ye laborers, inherit the blessings conferred by toil. Such perverters of their natures should have a short paralysis of their muscles, so as to enforce their practical value. Indeed, it always follows protracted inaction. Muscles used but little decline till they become so weak that exertion, otherwise a source of exquisite delight, becomes irksome, and fatigue follows trifling exercise. Such are most heartily to be pitied, yet their punishment is just, and self-induced.

LABOR IS DIGNIFIED. The honorables of the earth are its laborers. Nothing is mean which Nature requires, but worthy of universal commendation. What she has anointed and crowned let not man despise. This idea that labor is degrading, had its origin in kingly and feudal times and institutions, of lordlings and serfs. Would that it had never been imported to our republican shores. Is it not in the teeth and eyes of every principle of republicanism? Yet our cardinal doctrine of equality is fast erasing it, and elevating labor to that post of honor assigned it by Nature. True REPUBLICANS will never think the less of those who labor, and those who do should emigrate. Our country, our institutions are not congenial with their doctrines or practices. The old world is already consecrated to aristocracy and caste, this to equality. Go to Turkey, or India, ye purse-proud, labor-despisers; here you are strangers in a foreign land, for our institutions

conflict with your practices. Go where you can find congeniality, and leave us who love equality to the peaceable possession of this our home. Here you are eyesores, and stand in the light of those to whom this land of right belongs.

"Let any woman who esteems herself in the higher classes of society put the case as her own, and imagine that her son, or brother, is about to marry a young lady, whose character and education are every way lovely and unexceptionable, but who, it appears, is a seamstress, or a nurse, or a domestic, and how few are there who will not be conscious of the opposing principle of caste. But suppose the young lady to be one who has been earning her livelihood by writing poetry and love stories, or who has lived all her days in utter idleness, and how suddenly the feelings are changed ! Now, all the comfort and happiness of society depend upon having that work properly performed, which is done by nurses, seamstresses, chambermaids, and cooks ; and so long as this kind of work is held to be degrading, and those who perform it allowed to grow up ignorant and vulgar, and then are held down by the prejudices of caste, every woman will use the greatest efforts, and undergo the greatest privations, to escape from the degraded and discreditable position. And this state of society is now, by the natural course of things, bringing a just retribution on the classes who cherish it. Domesticates are forsaking the kitchen, and thronging to the workshop and manufactory, and mainly under the influence of the principles of caste ; while the family state suffers keenly from the loss. Meantime the daughters of wealth have their faculties and their sensibilities developed, while all the household labor, which would equally develop their physical powers, and save from ill health, is turned off to hired domesticates or a slaving mother. The only remedy for this evil is, securing a proper education for all classes, and making productive labor honorable by having all classes engage in it."—*Miss Catherine E. Beecher.*

ONE REASON why labor is despised, is, that it is generally required in such excess as to be extremely onerous. Such excess is injurious, and should never be required or yielded. On the other hand, we should render it as delightful in fact as Nature has rendered it by constitution, thus seconding her evident intention. Laborers should not be required to strike another blow after becoming just comfortably tired. We should work for *play*, and only when labor is a pleasure.

EXERCISE is doubly requisite for the young, but this point is fully discussed in "Sexual Science," Part VIII, on juvenile exercise.

149.—THE EXERCISE CURE, ITS AMOUNT AND KINDS, WALKING, DANCING, LIFTING, ROWING, PLAYING, ETC.

AS A PREVENTION AND CURE of diseases it has no equal, because it provokes every other function by virtue of that law of *balance* already

demonstrated.⁶¹ Exercise *compels* the lungs to breathe the more; squeezes the blood along through the veins; uses up and demands more organic material; promotes bowel action; ferrets out and fortifies all weak spots; and is one of the most efficacious of all the cures.

How much exercise each requires for the time being can be determined only by the feelings of each at that time. As normal appetite constitutes an infallible guide to the required quantity of food,¹¹² so muscular appetite, unless rendered abnormal by inaction, will say when and how much exercise each requires at that time, and when we are taking too much, or at improper times. To determine whether we need it, is just as easy as to determine whether we require food, and by a similar index—an *appetite* for it. Those require it who are benefited by it, feel better after taking it, sleep more sweetly, experience an increase of Appetite, additional clearness of mind, or agreeableness of disposition, as indeed all whose business confines them much within doors, and also those who feel a craving for motion.

SEDENTARIES, convinced of their need of it, often take it in excess, or unseasonably, or too violently. That same appetite which demands it, closely watched, will admonish the instant this occurs, and it should be discontinued *at once*. A kind of trembling, hurried, excited, and yet weakened state of the muscles, so that instead of playing easily and voluntarily, they must be *forced*, indicates excess, which always injures. Stop exercise the instant such trembling commences.

EXCESSIVE, and also fitful or violent exercise, especially for sedentaries, is injurious. Such should exercise *deliberately* as well as eat slowly, else exhaustion supervenes before its due degree of exercise is obtained.

THOSE WHO OVERWORK rob their brains, stupefy their minds, blunt their finer sensibilities, and fall asleep in church, and over books. Such should restrain this Faculty, as much as every other when in excess.

TWO HOURS of vigorous muscular exercise is as little as is compatible with first-rate health. Excellent constitutions may endure close confinement for years, yet must run down finally. A lower degree of health may be preserved on less exercise, but as the order of nature is to spend from six to ten hours daily in the open air,⁷⁹ so the perfection of health requires a great amount of muscular action. Four hours' brisk labor per day will suffice for exercise, and, well expended by each person on something productive, would supply the human family with creature comforts, and luxuries, artificial wants and extravagances excepted. How admirable is this adaptation of the amount of

labor requisite for health to that required to provide man with the necessities of life !

DANCING can be made as beneficial as it is delightful. Though dancing all night in hot and illy-ventilated rooms, once in weeks or months, and going out exhausted and exposed to colds, together with most of the associations of the ball-room, are most pernicious ; yet for sedentaries to select their company, and meet at each other's houses in the afternoon or evening, always avoiding over-exertion, and retiring by nine or ten o'clock, if practised often, would supply in part that deficiency of muscular action which causes so many to sicken and die, and restore many an invalid now perishing by inches with pure inanition, and preserve and even reinvigorate the health of many now going into a decline. It *might* be, yet rarely is, so conducted as to prove eminently beneficial, without occasioning any evil. In fact it is founded in the nature of man, and can therefore be turned to a most excellent practical account in a great variety of ways. To sedentary young women, this kind of exercise is particularly recommended. Yet all should dance to their own music, vocal or instrumental, or both, and also in company with their parents and elders. Young people should rarely dance exclusively by themselves. Yet our present purpose is to point out to the sedentary a feasible mode of taking exercise, not to guard against evils too often associated with it.

LABORERS who sit or stand much in one posture, can by it change and diversify manual action, dispel fatigue, promote health, and even render unhealthy occupations healthy. Seamstresses, goldsmiths, shoemakers, and many artisans of like occupations, who have no substitute, should dance daily as much as eat ; and students will find it promotive alike of health and of mental action, and discipline.⁴⁴⁰

WALKING is one of the very best kinds of exercise, easily taken, cheap, and every way adapted to the existing states of all. When brisk, it taxes every muscle and all the functions, but when leisurely, is adapted to invalids. In taking it, walk erect, allow the arms to swing as they list, keep the shoulders well set back, and, when convenient, walk with a friend ; and all the better if of the opposite sex, a wife, husband, daughter, son, or lover, so as to impart to it that mental zest and luxury which greatly improve its utility. Yet walking alone and *musings* over some pleasant subject or reminiscences, or meditating, will benefit both mind and body together. To be useful, it must at least be *delightful*, and the more parts it brings into co-operative exercise the better, hence adding conversation improves it.

STREET CARS injure the public health by preventing exercise. Merchants, clerks, lawyers, students, and the sedentary classes generally, who confine themselves to their offices, desks, books, parlors, etc., from morning till night, year in and year out, scarcely going out of doors, except to and from their business, *take cars* whilst dying for exercise! These principles of exercise put in practice, would soon banish conveyances for want of patronage. One would think our sedentaries, starved almost to death for exercise, would at least walk to and from their business, saw their own wood, and the like. Yet fashion requires that they hire horses to do the former, and servants the latter.

FARMING AND GARDENING, to those who like to see things grow, furnish one of the best forms of exercise. Man was made to raise his own food and fruits, and hence loves to see and make things *grow*. Spading, planting, hoeing, weeding, ploughing, nursing and gathering vegetables, fruits, and flowers, etc., develop the muscles, and promote every life function. We enjoy *raising* as well as eating good things. Working the ground, which is highly electric, restores and regulates those magnetic currents which manifest life.

AN ORTHODOX MINISTER, who preached near Boston, consulted me in March, 1860, as to what business he could change to with success; his health having been completely broken down by preaching; was told that he only needed exercise; and that cultivating a garden would enable him to regain his health, yet retain his pastorate. He leased a garden; worked daily till comfortably tired; called again early in May; said his health was rapidly recovering, yet that he preached without difficulty; and his parishioners said *much better* sermons than before.

WORK of any and all kinds, by a law of things, becomes excellent exercise, providing it is inviting.¹⁴⁸ All kinds of exercise, taken as a task or drudgery, injure. We should take some kind we *love*, and try to love whatever kind we must take.

GYMNASTICS are excellent, when not carried to excess, as they usually are. All emulous to outdo all, often strain these muscles, yet leave those comparatively inert.

DIO LEWIS'S light gymnastics are excellent, but often fatigue without even yet giving the muscle-developing exercise demanded. They use up the vitality without taxing the muscles. They are immeasurably better than none, and often effect remarkable cures; yet there are still better kinds. Their company, mingling of the sexes, gayety,

laughter, and many like things, entitle them to right hearty commendation, especially for sedentary ladies ; but *as exercise* they are completely distanced by—

BUTLER'S LIFTING CURE,⁶⁷ which brings the *entire* muscular system into *co-operative* action. Exercise should come upon *all* the muscles, not on a few only. This Butler effects by elastic springs, which, by yielding, call one set of muscles after another into *combined* action. Lifting on what does not give, throws too much strain upon *one* set, while a yielding weight draws first one set, then another, into action, until finally *all* unite, and all relax together.

ALL SUDDEN strains or jerks injure. Lifting should increase and decrease *gradually*. All this, and much more, Butler's mode of lifting effects.

A SUBSTITUTE for his perfect apparatus, which should be in every family, may be made thus : Take about thirty feet of cod-line, or any cord made of cotton, or which *stretches* ; twist, and double, then twist and double again, tie the ends, and attach two sections of a broom-handle, or any round stick adapted to lift by, one to each end, each about a foot long, and adjusting its length to your height, stand on one stick while you lift on the other, slowly but gradually increasing till you have put forth about as much strength as you can with comfort ; hold on two or three seconds, and ease off gradually ; rest a few minutes, repeat, lifting still more, and rest again, then lift and rest again, about four times in all.

ERECTNESS of posture is desirable, while lifting in a stooping posture injures. To obtain it, straddle your stick, that is, let it pass up between the thighs, so as to keep the spine straight, and shoulders well thrown back.

ALL WEAK spots will be found and fortified by this mode of lifting. Those who are dyspeptic will flinch at the stomach, while those who have weak lungs will hack after lifting ; showing that it searches out to strengthen those soft places, on that principle of balance already expounded.⁶⁶

FIVE MINUTES can thus be made to yield more and better exercise than an hour in any other form. This saving of time is certainly something to those whose time is precious. It can also be practised in your room, on rising and retiring, thus consuming only scraps of time.

THE INDIAN DANCE, which consists in hopping up and down on one foot after the other, or tossing the body back and forth from right

to left, meanwhile allowing the arms and visceral organs to shake around as they may, is also one of the best kinds of exercise, because it as it were *churns* the bowels. The Indians take it at their feasts, to enable them to eat still more, because it is specifically adapted to cure dyspepsia, and promote digestion.

THE INDIAN LOPE, or run, is quite like the Indian dance, and equally beneficial. It consists in an easy, loping run, in which all the visceral organs are allowed perfect liberty to shake around at pleasure, and is really most excellent.

SWINGING THE ARMS with or without dumb-bells, thrusting them rapidly back and forwards, kicking the feet, but not against anything, and any and all such bodily exercises, are beneficial.

THE BEST TIME for taking exercise is in the morning, before work begins, or just before retiring, but it should be *regular*. Those who use their brains mainly, whether in business or professional pursuits, will find a right good lift, or smart walk, to rest them amazingly, by equalizing the circulation, and diverting it from the parts oppressed. Its recuperative effects are indeed wonderful. Taken at night, or after the day's mental labors are closed, it distributes the blood from congested centres, sends it to parts robbed, and equalizes the circulation before retiring, so that the system can at once begin to recuperate in sleep. An evening's pull will redouble both your night's sleep and next day's work, as well as your personal luxury of living. Adapt your time to your circumstances, but take *some* time.

RIG SOME apparatus, and make vigorous trial for at least a month, sufficient to realize *experimentally* some of the advantages to be derived from it. Those really remarkable cures it has effected within the Author's personal knowledge, should encourage all to at least give it a fair *trial*, if no more. It is certainly working wonders.

THE REASON of this efficacy lies in its restoring *balance* of action, as is proved by its working its greatest cures upon *sedentary*, literary, and business men. Excessive brain action, without proportionate muscular, caused the particular ailment of each,⁶¹ and this exercise restores this lost balance, by calling an unused system of organs into action. Many now so run down that they think they absolutely must quit business or die, by simply spending fifteen minutes daily or tri-weekly in lifting, might work on, and work themselves both well and *rich*. As a cure for dyspepsia it has no peer.

SECTION III.

POSITION, FUNCTION, AND STRUCTURE OF THE NERVES.

150.—DESCRIPTION AND FUNCTIONS OF THE NERVOUS SYSTEM.

THE NERVES are but a continuation or extension of the substance of the brain, already described,³⁵⁻³⁶ throughout the body. This is effected by means of the spinal cord *d*, fig. 6, which is enclosed in the spinal column or back bone. The substance of this cord and of the nerves closely resembles that of the brain, except that the cineritious is inside and the medullary on the outside—a reversion having taken place.

THE SPINAL CORD gives off nerves at each spinal joint to the heart, lungs, stomach, liver, viscera, and all the other internal organs. When either becomes chronically irritated, inflamed, or diseased, its nerves are similarly affected; so that, since each of these nerves unite with the spinal cord at its own particular joint and no other, by pressing on the joint which receives the nerve of the heart, a soreness, perhaps sharp pain, will be experienced by the patient at that joint in case it is inflamed, or a numbness when it is inert; and thus of all the other internal organs. This test of disease is *infallible*, and tells at once and with certainty whether any of the vital organs are affected, and if so, which—five minutes being sufficient to decide the matter without mistake, even in the dark.

NERVES pass through these joints to the hands, feet, muscles, bones, and every portion of the body. Another nervous track is called the great sympathetic nerve, which traverses the cavity of the chest from thorax to abdomen. Thus a double nervous inter-communion of all the organs of the body is maintained, both with each other and with their common centre—the brain. These nerves are always found in close proximity with blood-vessels, both arteries and veins; the three always accompanying each other. Every nerve shred, every muscle, and even every fibre, is similarly supplied with both blood-vessels and nerves. Wherever there is life, there also will nerves be found; and the more life in any animated thing or part, the more nerve.

THE FUNCTIONS of these nerves are of three kinds, sensation, voluntary motion, and involuntary motion. Those of sensation proceed from the back half of the spinal cord, and those of motion from the

anterior half, and unite soon after they issue through the joints, become encased in one common sheath, and cannot be distinguished from each other. Yet cutting that nerve which goes to the hand, or issues from the anterior half of the spinal cord, destroys all sensation in it, so that it may be cut, burnt, anything, without feeling it; while cutting that from the posterior half destroys all power of motion. The involuntary nerves go to the heart, lungs, stomach, and other internal organs, so as to carry on their several functions irrespective of the will, while asleep, and while attending to the affairs of life—an arrangement absolutely indispensable.

THE VOLUNTARY MOTOR NERVES are distributed mainly to the muscles to enable us to govern them at will, and move hands, feet, and body, in accordance with its determinations, of which all are perpetually conscious; while those of sensation are ramified mostly upon the *surface* of the body, stationed as sentinels on the outer walls to warn against the contact of all enemies to life and health, and tell us when we are too warm, or too cold, or in contact with anything injurious.³⁷ They are so minutely ramified that the finest needle cannot be thrust through any part without lacerating and painning some of them. The minuteness of this ramification is absolutely inconceivable.^{80 127 138} Nature is as infinite in her littleness as in her greatness. Our huge earth, compared with which a mountain is as a grain of sand, is but an atom compared with her planetary sisters, Saturn and Jupiter; and even the whole solar system itself is a molehill compared with its grand centre, the sun, so massive as to baffle all known attempts at comprehension, while sun and planets, if rolled together into one mighty pile, are the merest hillock compared with that vast belt of suns and worlds perceptible to human vision. And even all this is only a speck of this boundless universe! O God, how vast is thy greatness!

YET DIVINE MINUTENESS descends as far below in littleness as He rises above in vastness. Infinite magnitude, infinite capillary ramifications, are both alike to Him. Words utterly fail to describe, and the human mind to conceive, the fineness of these capillary formations, as in the structure of the lungs,⁸⁰ blood-vessels,¹³⁰ pores, and nerves. Verily, "Thy ways, O God, are infinite." In this infinite littleness of nervous ramification in the skin, sensation takes place. These nerves give off an infinitude of little papillæ, or feelers, which cover the entire surface of the body, and create that sensation of which all are conscious.³⁷

HENCE in amputations, and all cuttings and bruises, boils and sores, the greatest pain is nearest the skin—it being comparatively slight after the cut or hurt has fairly passed below it. When a bone has become inflamed it is also exceedingly painful, yet here also the pain is mainly at its surface. Since the inner portions are protected by the outer, as great a supply internally as externally would be a useless expenditure of vitality.

MORE NERVES are stationed at some points than at others—about the eyes, hands, and especially ends of the fingers, the utility of which is beyond all computation, as all know by perpetual experience.

THE IMPORTANCE of the sensation thus effected is incalculable. Without it we could never know when we were too cold, or too warm; when our flesh was burning, or freezing, or bruised, or mangled, or experiencing any injury or destruction, unless we chanced to see it. Pain thus becomes one of the most useful institutions of our nature.²¹

151.—HOW HEALTHY AND DISEASED NERVES AFFECT THE MIND.

NERVES ARE BRAIN ramified throughout the system.³⁷ Hence all their existing states are transferred at once to the mind; while all mental states are likewise transmitted to them.

THEIR NORMAL ACTION creates the most delightful glow of physical and mental comfort throughout, and a happy, ecstatic joy, better felt than described,³⁰ which healthy children illustrate. None begin to realize how much pleasure inheres in their healthy action, nor how inexpressibly happy they are adapted to render us all.

THEIR DISEASED action, however, creates a restless, crawling, awful feeling, which makes its victims almost desire to “jump out of their skin.” The “crevels,” so called, have this origin. None at all realize how much misery, steeped down, their disordered action causes. Those who suffer from colds, fever and ague, etc., feel as though they could neither sit nor stand, walk nor lie down, and would fain spring right away from themselves to get relief from this awful distress which agonizes all its nervous and hysticky victims. Their condition is indeed most pitiable, yet self-induced.

THE MIND, however, suffers the most, and in proportion to this nervous impairment. Morbid nerves create morbid, wretched feelings. All our mental operations partake of their states, good, bad, and indifferent. Nervous victims always *feel* spleen, even when they suppress it. Disordered nerves would make an angel cross. A naturally amiable, pious woman becomes peevish and fault-finding in proportion

as her nerves become impaired. Most of her troubles are imaginary, "made up out of whole cloth," and real ones magnified manifold. As every touch of that gathering bile gives pain, which, if well, would give pleasure; so whatever touches persons having disordered nerves, even though adapted to give only pleasure, enhances their misery. Trifles weigh them down more than should the cares of kingdoms. Their excited imaginations make mountains out of molehills, and render them superlatively wretched from morning till night, as though some terrible, but unknown calamity, hung suspended over them as by a hair. They retire, but cannot sleep. The boiling blood courses through their veins, while their laboring palpitations shake their very couch. Their incoherent thoughts wander to the ends of the earth, but to no purpose. They think and feel upon every thing only to redouble their mental anguish. If they love praise, they feel as if neglected or despised by all, and mortified and chagrined to death at imaginary slights. They see their path filled with lions and tigers, and are afraid of their own shadow. Hour after hour they turn on their couches prostrated, and dying for want of sleep, yet unable to obtain it; or if at last they lose themselves, frightful dreams horrify their shallow slumbers, and they awake enshrouded in impenetrable gloom. They feel most keenly, only to feel most wretchedly. They often groan out, "O dear me!" and perpetually feel "O, wretched man that I am." Things otherwise their joy have become their misery, and every sweet thing is now embittered. Their false excitement is most intense, yet they have no strength to endure it. Days and weeks roll on only to redouble their miseries by increasing their exhaustion. Let them do what they may, and be circumstanced however agreeably, their disordered nerves extract only agony from all surroundings. The difference in talents, goodness, and happiness, between the same person when his nerves are healthy and diseased, is heaven wide. None can ever know how great, except by experience, nor begin to fully realize it even then.

DISORDERED NERVES cause more misery and depravity, and blight more morality and talents than anything else whatever. Dyspepsia originates in nervousness,¹¹⁶ as does rheumatism, neuralgia, and even consumption. Indeed, nearly all other diseases and ailments originate in the nervous system, because it, with the brain, fulfils the great climacteric functions of life. All else is its vassal, while it lords it imperiously over all the other organs and functions. Please duly consider *why* they wield this supreme control, and learn therefrom how

disordered nerves work all this ruin. Neither rich nor learned, wise nor good, need ever expect to be happy any further than their nerves are healthy.³⁰

EVEN DEPRAVITIES have this for their main cause.²⁸ An extra sweet, self-sacrificing, scrupulous wife and mother, by over devotion to family, renders herself nervous, and therefore so cross-grained, sour-tempered, and malignant, that she scolds husband, children, servants, guests and neighbors, perpetually, right and left, for every little thing, and often for nothing, and even for what is praiseworthy, solely because of her abnormal *mood* caused by this nervousness; and when all concerned are nervous, all scold and quarrel, accuse and slander, back and forth, with depraved unction and earnestness; making their home a Bedlam, and engendering both animosities and infidelities *ad infinitum*, solely because all are suffering from nervousness; nor can their sinful *spirit* be cured till their nerves are restored to normal action. If ministers would preach this doctrine, millions of well-meaning, but now cross-grained, women would at once set about that *physical* regeneration which would restore them to sweetness and goodness; whereas, preaching ordinary sermons to them till doomsday would leave them still as bad and wicked as ever in *action*—they are now all right at *heart*. Abnormal *physical* conditions have generated those depraved mental states, which must continue to defile their feelings and actions till their nervous *cause* is removed.²⁸

HUSBANDS, suffering perpetual detraction and reproaches from your nervous and therefore maligning wives, have you no "interest" in both relieving yourselves of these slanderous and groundless accusations, which originate in their embittered *state* of feeling, and this solely in their nervousness? And good, sweet wives, fretted perpetually by a cross, because a nervous husband, and this because he is overworked, called hard names by the thousand, unable to do any one thing to please him, though you try your *very* best, should you not "take stock" in restoring him to himself, yourself, and your children, by getting him out of this fussing, snarling, crabbed, rabid *mood*? How many wives live crushed and heart-broken, and die many years sooner than they otherwise would, solely in consequence of that utterly hateful and repellant *spirit* of their husbands, which is due solely to their nervous disorders? and how many husbands, finding no domestic peace, no cosey, loving feelings in the female they are obliged grudgingly to support, seek relief in gambling, or billiards, or carousing and dissipation with other women, who would be pattern husbands

but for a wife's gangrene temper, due solely to her nervousness. Why do so many wives and husbands, amiable, affectionate, and everything desirable at marriage, become mutually dissatisfied with each other, say they wish they had never married, and anon become perfectly fiendish towards each other, not from any natural ugliness, but because their noble, even heroic struggles for mutual interests have deranged their nerves, infuriated their tempers and all their passions, and spoiled the dispositions and destroyed the lives of both, and their children to boot?

DRUNKENNESS depraves. This all concede, and all drunkards illustrate. Why? Solely by deranging and abnormalizing the nerves.³⁰

TEA AND COFFEE derange the nerves,¹²⁶ and thus generate a cross-grained, ugly-tempered feeling, which vents itself on husband, children, and servants, however good. Tea and coffee drinkers, how many spiteful sentences think you are lodged in that cup of tea or coffee you are consuming? It irritates your *spirit* principle, and the feelings and actions it begets must affect you *forever*. So beware how you drink what, when drunk, will prompt you to feel and say what you *should* regret as long as you exist.

TOBACCO chewers, smokers, and dippers, this means you, too. Let that hankering, fidgety, rampant, snappish feeling you experience mornings, before you get your tobacco, convince you that it is disordering your nerves, and thereby creating depraved feelings of one kind or another.¹²⁶ Only sole-leather persons should chew or smoke, or drink tea, coffee, or alcoholic liquors.

"WHAT SWEEPING and even criminal charges you thus hurl by wholesale at your fellow-men! You accuse our ministers and their wives, our 'mothers in Israel' and virgin daughters, our savans, judges, senators, and presidents, as well as common people by *millions*, of sins and depravities numberless in variety, and heinous in kind. Can you *prove* all these wholesale accusations? for if not, you are a wicked slanderer, because to accuse the innocent of theft is quite as bad as stealing itself."

DRUNKENNESS DEPRAVES by deranging the nerves. Alcohol makes the drunken debauchee fight in frenzied rage one minute, and seek her house "whose steps take hold on hell" in frenzied passion of another kind, the next. Bacchus was wild with fierce, surging, false excitements; so are all his votaries. What is "delirium tremens" but wild frenzy? Then does not *all* intoxication induce it in that proportion? Are the swearings, fightings, murderings, etc., of inebriates depravities? Then does not intemperance create depravity?¹²³

But *how*? Solely by abnormalizing the action of the nerves.²⁸ Therefore whatever *else* abnormalizes them, depraves in that proportion. That awful tobacco tremens, already described,¹²⁶ is the quintessence of depravity, yet has its origin in tobacco-irritated nerves. A cross, snappish, irritable state is a depraved state.²⁶ Tea, coffee, tobacco, and alcohol, cause this state, and thereby depravity. Opiates, tea, and coffee, have a similar effect. Whatever irritates, therefore, abnormalizes, and all abnormal action is sinful.²⁸

READER, please duly consider whether²⁶ this does or does not state a fundamental natural truth; and since it absolutely does, learn from it that *whatever* causes abnormal nervous action, creates depravity of *spirit* along with sinfulness of *soul*. Then do tea, coffee, and tobacco cause abnormal nervous action? Let the "tremens" they cause, in proportion to their amount, together with the nervous susceptibility of their consumers, answer; and let that answer be *heeded*. Both propositions are true, and, taken together, prove that tea, coffee, tobacco, alcohol, and whatever else impairs the nerves thereby depraves the spirit. Excessive devotion to business, financial embarrassment, affectional troubles, waiting on the sick, reading novels, intense pas-sional excitements, excessive study, etc., create and augment sinfulness. Let us see how.

A SWEET ANGEL MOTHER, all devotion to her family, has a sick child or parent, caring for whom worries her by day, and keeps her awake nights, till her nerves become disordered, which makes her cross and ugly to husband, arbitrary and dogmatical towards children, scolding this, blaming that, and chastising the other child without any cause, except her nervousness; but for which she would have remained angelic and self-sacrificing. Their death still further deranges her nerves by grief, which renders her still more violent-tempered and abusive; that is, depraved. And yet, but for their sickness and death, she would have remained an angel still.

A TENDER-HEARTED MAIDEN is courted, till she loves with her whole being, and then discarded. She feels most wretched, how awfully only those can tell who "know by sad *experience*." All day she pores, sad and heart-broken, over her fatal bereavement, and all night she rolls and tosses in genuine mental agony over the wrong she suffers. Finally her strained nerves give way, gradually but effectually. A slow fever sets in. This, of course, makes her cross and irritable. She is no longer that sweet, patient, innocent, angel maiden she was before; but is impatient, impertinent, cross-grained, spiteful, and hate-

ful, on that very principle which makes the sick child cross. What wonder that her strained nerves finally give out, and that her girlish sweetness is thereby soured, only to be supplanted by fretfulness of mind and disease of body? What a pity! How great the loss to herself and family! When will men and women learn that all violations of the physical laws induce sinfulness.²⁸

Suppose, instead, her love affairs had run smoothly, and she had married and lived in perfect affection, this would have kept her nerves healthy, and this her temper angelic. There is no telling how much affectional disappointments affect the moral virtues.^{443 450} See this whole range of truth unfolded in "Sexual Science." The effect is given there, the cause here.

IN FINE, let all bear ever in mind that deranged nerves create depraved feelings and actions. Whatever causes nervous disorders, thereby engenders depravity. Where have been the eyes of ministers of religion not to have seen this range of truth, and used it to promote that moral excellence they are hired to preach? Ministers, church-members, and outsiders, refute these doctrines, or else accept them. They challenge you.

THE CAUSES of all this modern nervousness, and therefore depravity, are many and aggravated, and enter into all the usages of civilized society. They begin in the cradle—in the cradle? Long before it, in parental nervousness; are augmented by maternal scoldings and chastisements from infancy;⁶⁴⁸ redoubled by early schooling and precocity; brought to a head by novel and magazine reading, false fashionable excitements, and juvenile "love spats;" and break in marital disappointments, alienations, and infidelities, and resultant vices and wickedness.

MAKE ALLOWANCES, then, for nervous wives, husbands, children, and acquaintances, especially for your *own nervous selves*, by remembering that nervousness distorts and depraves all it touches; and also learn the infinite practical importance of keeping or putting your nerves in a healthy state. The fact is, all should arrange their houses, lands, business, domestic affairs, and everything around them, little and great, so as to render themselves as happy as possible, and by all means avoid occasions of sad feelings and vexations. And when trouble, as the loss of friends, domestic difficulties, failure in business, or anything of the kind does come, banish it as far as possible from the mind, and try to think on what gives only pleasure. Children, also, should be crossed and provoked, and especially flogged, as little as possible.

A TENDERNESS on the top of the head, amounting perhaps to soreness, is one of its surest signs, because the nerves centre at this point, so that irritated nerves create pain there.

UNHAPPY FEELINGS, a morbid, dissatisfied, churlish, ill-natured state of mind, is one of the surest signs.

TWO STATES, as of appetite in dyspepsia,¹¹⁶ characterise nervous disorders, in common with all others—an irritable, craving, fiery state, and a benumbed, deadened, lethargic, stupid, and partially paralyzed state; the former characterizing the earlier, the latter the more advanced stages of this disease. Sometimes they alternate, like Appetite in dyspepsia, now fiery, then stupid and moody. A wild, excitable, fierce, rampant state signifies the former, and a murky, forlorn cast of emotion the latter. Your *states of feeling* should tell you whether or not you are nervous, and in which state.

152.—THE CURE FOR NERVOUSNESS, AND NEURALGIA.

ASCERTAINING ITS CAUSE or causes, is the first and most important step. Nothing light, trivial, or temporary could effect results so painful and serious. Look all around and see what fundamental life law you have long been violating.¹⁹ This disease may be sympathetic. Since the nervous system ramifies throughout all the organs, their ailments, of course, similarly affect it. Dyspepsia always fevers it.¹¹⁶ What is gout but a chronic, nervous inflammation? and are not its victims extremely testy and irritable? Perhaps it results from that old love disappointment you have seemingly forgotten, yet which begets an occasional sigh.³⁸ Or it may be a married disappointment, or that death which struck to your very heart, or that terrible fright you once had, or some business disaster.

A MERCHANT in New York, in 1857, who had always made it a special point of honor to meet every engagement promptly, on going, perfectly well, to his business in the morning, found some of his customers' notes protested. Having done his best, and his deficit only trifling, he relied on the leniency of his bank, in which he had always had large reserves, to help him through; but it refused him one dollar. A note he indorsed for another was protested, and his name published in an evening paper in the bankrupt list. He went home, stupefied by the day's excitement, struck dumb and inane, lingered, and died! How many die suddenly, in consequence of the death of some one dearly beloved! A lady died instantly because her lap-dog fell from her carriage and was run over. Analogous cases transpire

perpetually, all teaching this great practical truth, that *all painful mental states disorder the nerves.*

"But how can they be *helped*? Can a mother forget her sucking child, just laid away in death? Should she? What family, what heart, but has its skeleton?"

"Sexual Science" gives "directions touching mourning for the dead and absent,"⁴⁶⁰ and "broken hearts, and how to mend them."⁴⁵⁶ Remember that much of your trouble, if not wholly imaginary, is at least magnified many fold by your own morbid feelings; that you are troubled chiefly because you *think* you are; that if you *thought* the converse, it would *be* the converse; that the least said the soonest mended; that "evil is to him who evil *thinks*;" that *crying* over "spilled milk" makes you spill more, but never gathers up that already spilt; that your *grief* over a thing hurts your *self-hood* a hundred fold more than the thing itself is worth; that it may be bad enough, but *feeling* badly makes it ten times worse, yet does nothing whatever towards obviating it; that if you can obviate the evil you should; but if you cannot, self-interest requires that you patiently "*endure* what you cannot cure," and "make the best" of what is;¹⁶⁶ but *never* on *any* account *hurt yourself* by grief. At least you must not expect to recover while this cause remains, any more than that a sore will heal while it has proud flesh. Yet your suffering thus proves that you are *curable*, and that Nature *is* actually curing you.²³ Add no more disease, and your system will soon cure itself.

Having thus ascertained and obviated the *cause* of this nervousness, your cure consists,—

NOT IN OPIATES, nor morphine, nor nervines, nor valerian, nor any nor all those nostrums usually administered; for if they give relief by paralyzing the nervous system, they do it only damage; but if by stimulating it, they injure it; because the very trouble is this very stimulation.¹²³ It needs no tonic, for it is toned up to a diseased pitch already. Opiates, morphine, etc., stupefy, palsy, and benumb them for the time being, only to make them far more excitable ever afterwards. If they have strength enough to react, they are still more irritable the next day; but if they have not, they become permanently paralyzed. If you can get no sleep without them, sleep produced by them does you no good; for it is stupor, not sleep. They kill time and your constitution together. Away with them all. Do not tamper with your precious nervous system, but bear present pain rather than inflict future injury.

STOP WORRYING. Every bad feeling makes you and them the worse, yet does no good. Make the best of what is.¹⁶⁶

AVOID STUDY and mental action generally. Do let your overworked brain rest till it recuperates. Its feverish, fitful action is of little account. And remember, action now discounts future action at a fearful interest. **STOP** thinking and studying.

SLEEP, sleep, sleep, all you can, day and night.¹⁴³ To this end dismiss cares and troubles, and quiet down. Let the world jog on, and things take their course, while you stop a bit to rest. No cure for nervousness at all equals sleep; yet to obtain it is often difficult. Though perpetually worn out for want of rest, you can compose yourself to sleep only with difficulty, sleep lightly, are restless, disturbed by dreams, easily wakened, and find great difficulty in again getting to sleep. Nine hours per diem are none too much, for you sleep slowly when asleep, yet exhaust yourself rapidly while awake, and hence should devote the more time to this all-important function.

SEEK AMUSEMENT. Enjoy whatever you can enjoy—operas, concerts, visits, riding, gardening, flowers, travelling, anything pleasurable; for pleasure is medicinal.²⁷ Make fun your business for the present.

YOUR SKIN, not your stomach, furnishes your readiest mode of reaching and relieving your nerves. See how forcibly engraving No. 4, and context, illustrate and enforce this great truth. Nature doubtless abounds with herbs and things, which, applied externally, in the form of ointments or decoctions, would secure a most delightful glow of nervous feeling, and consequently of comfort, bordering on ecstasy, and restore disordered nerves as if by magic; yet this is only inferential.

WILL AND WATER are your chief remedies. The skin absorbs medicines. This is proved by their appearing in the urine of those who have bathed in water impregnated with them. But Nature is jealous of all interference. Give her all needed facilities, and leave events to her; for what can be done she will do.

TAKE EXERCISE, as much as you can bear; but be especially careful not to overdo. Nervousness renders you loath to begin, but when begun, extremely liable to overdo. Not to do too much absolutely, but to do too *fast*, so as to cause a trembling. Exercising moderately will enable you to exercise much more without overdoing. Remember your nervousness throws you into a hurried, flurried, worried, rushing mood, so that you are apt to exercise too violently at first. Cultivate deliberation in exercise, in everything.

HORSE RADISH CURES NEURALGIA. Pound or grind, and apply wet with vinegar, to the aching spot. Eating it with food is good for excitable nerves. So is lettuce eaten with vinegar and sugar. Both always promote sleep, and thereby restoration. Try moderately all the pathies except allopathy, take the best possible care of your general health, and wait patiently on Nature, and every day will find you better than its predecessor. Following these directions will restore the most aggravated cases of this disease, and make new men and women of many now miserable thousands.

153.—PREVENTIVES AND CURES OF INSANITY.

A DISEASED MIND, of all the diseases incident to human nature, is the most grievous, crushing, and absolutely insupportable. To have limb after limb cut from the writhing body, most excruciating though it is, bears no comparison to that horror of horrors experienced "when mind's diseased." Those thus afflicted have been known to hold their hands in the fire, cut and bite their flesh, submit to amputation, etc., and then remark that these things were diversions compared with the indescribable mental anguish they endured. Well may the heart of every philanthropist beat with its fullest and strongest pulsations of sympathy in view of the anguish experienced by raging, bewildered maniacs, and government attempt their amelioration by erecting asylums for their comfort and cure. What practice is as barbarous, as absolutely horrible, as that of confining them, perhaps in dungeons, chains, or strait jackets, treating them as if they were criminals, and perhaps scourging them at that! They are sick, not guilty. To punish those dying of fever, or consumption, is truly horrible; but to chastise maniacs is as much more so, as their disease is more painful than all others. Ordinary sickness can be endured; but let reason be dethroned, let self-possession be swayed from its moorings; let imaginary demons torment, and all the passions be thrown into a tumultuous uproar, they are no longer themselves. Of all objects of commiseration, such are the most deserving.

To PREVENT this disease is far better than to cure it. The following prescriptions, faithfully adhered to, while they will greatly mitigate this disease, after it is once seated, will, in most cases, even where it is hereditary, prevent its developing itself into actual insanity.

ASCERTAINING ITS CAUSE is first necessary, so as to counteract or obviate it. Insanity consists in the excessive *excitability* and *over-action* of the brain and nervous system. Its prevention, therefore, can be

effected only by reducing this over-action. Obviously the same remedial agents should be employed to reduce this morbid inflammation which reduce other cases of inflammation, and the same means by which tendencies to other forms of inflammation may be prevented, will prevent the inflammation of the brain, and its consequent mental derangement. Let it never be forgotten that insanity is as purely a physical disease as consumption, or cancerous affections, or any other bodily indisposition; and both preventives and cures, to be effectual, must be adapted to prevent or reduce this inflammation.

SUPERIOR NATURAL ABILITIES, including the most intense emotions, invariably accompany a tendency to insanity. Each consists in that same exalted cerebral action which causes the other. Only the very flower of humanity need ever fear becoming insane. In fact, this affliction is only the very excess of talent and sensibility. Do superior talents depend upon the powerful action of the brain? So does insanity, only that its cerebral action is still greater. As but a narrow line separates the sublime from the ridiculous; so but a step divides the highest order of talents from madness. It requires a prodigiously smart man to become crazy. Whoever is subject to insanity is nobody's fool.

TO PREVENT its hereditary tendencies from developing themselves, it is only necessary to prevent this constitutional excitability from progressing beyond the point of healthy action. And to do this, divert action from the brain to some other part, remove exciting incentives to cerebral action, and keep the mind as quiescent as possible.

A CHILD's hereditary predisposition to insanity will show itself in his ecstasy of feeling when pleased, and in the overwhelming depth of his anguish when crossed; in the power and intensity of his desires; in his haste and eagerness about everything; and in his being precociously smart and acute. In this lies the danger. Parents generally try to increase this action, by plying such children with study, keeping them confined at school, and seeing how very smart they can make them; yet should prevent this tendency, by pursuing a course directly opposite. This highly wrought cerebral action requires to be diminished, not enhanced. Study increases it; so does confinement; but physical exercise diverts it from brain to muscle. All children thus predisposed should be kept from school till well grown, and allowed to run, play, and be happy; but never crossed or tantalized; nor enter upon the cares and business of life till fully matured; and then check that boiling energy which courses through their veins.

FARMING, of all occupations, is the most suitable for them, as the labor it requires diverts blood from the brain, and works off that excitement, the excess of which constitutes this malady. With nothing to do, this energy accumulates, and gathers upon the most susceptible part, the brain, and ends in derangement; but opening the valves of labor for its escape, preserves health and sanity.

LET THEM SLEEP. Put them to bed early, and keep them from being excited evenings. Young people thus predisposed should not attend balls or parties, nor any exciting scenes, in the evening, nor read novels, play cards, or other exciting games of chance, nor take alcoholic stimulants¹²³ of any kind or degree, not even wine, cider, or beer, and scrupulously avoid even tea, coffee, and tobacco,¹²⁶ because all these tend to augment and develop that excessive cerebral action from which alone they are in danger. They should take laxatives, not tonics—what will diminish their excitability, not increase it. Alcoholic drinks often induce derangement, even where there is no hereditary predisposition to it; much more will they develop a latent susceptibility already existing.

STIMULATING MEATS and drinks are most efficient agents in developing latent insanity. The simplest diet is the best. Milk, by being productive of dulness, is decidedly beneficial. Breadstuffs will be found far preferable to meats. Indeed, meat should be eaten sparingly, because it is a powerful stimulant. It heats and fevers the blood, and increases the very tendency to be avoided. Bread, milk, Indian and rye puddings, vegetables, rice, fruit, and the like, should constitute the chief diet of those thus predisposed. LETTUCE eaten with lemons is excellent, because quieting. Of course from spices, mustard, peppers, and condiments, they should wholly abstain. Excepting alcoholic drinks, nothing is equally pernicious. Only those things should be taken which open the system, and keep it cool. Fruit may be eaten in almost any quantity with advantage, and so may jellies. But, unfortunately, sweet things are relished by such less than things sour and hot, as pickles, peppers, etc. Eat them, but they will hurt you.

COLD WATER, especially the shower-bath, is certainly cooling, and pre-eminently calculated to carry off their superabundant heat, and obviate that feverish tendency which constitutes the predisposition to be avoided. Nothing will be found more beneficial to the insane than cold water applied externally, especially to the head, and taken internally in copious and frequent draughts, providing always that reaction

supervenes. This prescription must commend itself too forcibly to the common sense of every reader to require defence.

AVOID THOSE SUBJECTS on which relatives or ancestors were deranged. Thus, one of the topics of derangement appertaining to the family of a young man who hung himself, on account of his having been disappointed in a love matter, was the social affections. He should have known this, and therefore have nipped his affections in the bud, unless he was sure of their being reciprocated, and consummated in marriage. In short, he should never have allowed his affections to become engaged till sure of marriage—a direction suitable for all young people, but doubly so for those thus predisposed; because love is very exciting anyhow, whereas they require peace and quiet. Still, unless such are able to govern, they should locate their affections, though they need not therefore be in haste to marry. A partner having a cool, soothing Temperament, should alone be chosen.⁵¹⁵

THE MOST EFFICACIOUS prevention, after all, is to place intellect on the throne, and to bear in mind that this hereditary tendency exists, and when your feelings become powerfully awake to any particular subject, remember that they are constitutionally too active, and therefore magnify everything; and remembering this, will enable you to look with intellectual coolness upon the bustling tumult of raging passions as upon schoolboys at play. Thus, if the predisposition is to melancholy, remember that these gloomy feelings have no foundation in reality, but are the product of your own organization; that but for this hereditary predisposition, the same circumstances would produce opposite feelings; that, in short, your troubles are self-made, and without foundation, and this will enable you to dismiss them. And so of any other predisposition.

DIRECTIONS FOR PREVENTING and curing nervousness, apply with redoubled force to insanity. All forms of dissipation and vice, and whatever fires up the passions, are to be most sedulously avoided. None who lead right hygienic and moral lives need ever fear insanity, no matter how predisposed to it all their relatives may have been.

CHAPTER VI.

THE CURES OF DISEASES.

SECTION I.

THE VARIOUS PATHIES.

154.—HOMŒOPATHY; HYDROPATHY, AND COLDPATHY.

ALLOPATHY has already been censured.⁷¹

HOMŒOPATHY is based in the known law of inoculation, and making inroads upon the old practice, of which it may justly be proud. If its pellets do not cure, they will not kill, and that is something, but this cannot be said of allopathy. Its hygienic prescriptions are certainly most beneficial, do much to obviate disease, and would often cure without any other means. For children, especially, it is preferable to allopathy, which is quite too "heroic" for these dear little ones. Yet herb tea is far the best for them, and "granny" the best practitioner, provided she does not overdose.

ECLECTOPATHY is a great improvement on its allopathic pater-nity, especially since it gives but *little* medicine; looks all around for all aids other than medicinal; and relies much on *Nature*, that great restorer.

HYDROPATHY has certainly achieved curative wonders. Its power and efficacy probably exceed all other remedial means now known. Of its wonderful healing virtues, its oxygen, of which it contains a large proportion, is probably one great instrumentality; the various organs imbibing from it through the skin this great promoter of universal life. Scarcely less powerful for good is its efficiency and unequalled capability for removing obstructions, by taking up and carrying out of the system those noxious matters which clog the functions of life, breed disease, and hasten death. For reducing inflammations, and consequent pain, it has no equal; besides being an efficient promoter of normal action, and universal life. For reviving debilitated organs, rebuilding broken constitutions, cleansing the stomach, bracing the system, and infusing new life throughout all its borders,

it excels all other medicinal agents combined; and is destined to lay medicines and the lancet on the shelf of the past; substitute throughout the whole earth the blessings of health for the miseries of disease; and double the present span of human life. No family, no individual, should be without a knowledge of the best modes of its application in all sorts and stages of debility and disorder.

IT SOMETIMES injures, on the well known principle that "too much of a good thing is worse than nothing," but it may glory in that great army of former invalids it has snatched from the jaws of death, and made happy in health. All honor to Preisnitz and his followers.

THE PRINCIPLES on which it cures, probably are, that it opens the pores of the skin,¹⁴¹ and starts that great means of health into redoubled activity, increasing perspiration, circulation, excretion, and digestion. Its "pack," which consist in wringing a sheet out of cold water, spreading it on top of several bedquilts, having the patient lie down in its middle while it and other bedclothes are wrapped and tucked in tight all around so as to exclude air, and cause perspiration, and, letting him lie and sweat for a couple of hours, then wash off and dress; opens the pores most effectually, and sometimes acts as if by magic.

ITS COMPRESSES are also most beneficial. Those who have any chronic aches or pains, will find a towel wrung out of cold water, and placed over the stomach, liver, or any ailing part every night on retiring, and kept there till morning, to take out a vast amount of fever, heat and pain. Before you know it, your ache is gone for good. It cures thus: That heat which causes the pain²³ is all night turning the water in the towel into steam, which takes up this heat, casts out the disease through this perspiration, and then retains this heat by this sweat passing back into water. Note how hot this wet towel becomes after half an hour. This heat *means* something—means that a vast amount of *fever* is thus allayed, because its cause is removed.

TO SWEAT the parts, cover up with an outer woollen cloth, so as to retain the heat; yet it will probably be best to let it pass off through the wet cloth. Try both methods, and choose the one liked the best.

COLD is undoubtedly one of its means of cure. As a remedial agent it is most efficacious, yet not at all duly appreciated. Why are almost all men, women, and children so much better every way in fall than summer? Because it is colder, and this because cold braces and tones up the whole system. Why, after your feet or hands have been growing cold by riding, do they suddenly become warm and glowing

without moving them? Because a latent property in cold begets reaction.¹³¹ All know that exercising them in the cold warms them; yet they sometimes get warm without exercise, and solely by the simple effects on them of cold alone. Its bracing and tonic effects are marvellous. Please note them.

A COLD-PATHY, well conducted, will be found one of the best of all the cures, and materials for applying it abound out of doors from October to April. It must be judiciously conducted, so as every time to secure the required reaction, or it will injure terribly.¹⁴²

THAT GLOW which accompanies bathing is doubtless due to the reaction caused by this cold; for lukewarm baths do not produce it, but only those so much hotter than the person as to create reaction from the converse principle of *too* much heat. The colder and the hotter any bath, the greater this reaction, provided the system has vitality enough to create it.

REACTION is indispensable to all baths. Without it they do irreparable damage. That bath which leaves you chilly and clammy, damages most seriously. Do anything, but *something*, to induce it after each bath. And what are all fevers but reactions from preceding chills?

TOO MUCH water, more than the system has the strength to resist, is awful, and will soon finish off its patients. This is true of all baths, all water treatment, and in fact all treatment. Invalids, please take note and warning.

A SMALL SURFACE, when wet, readily reacts; because the rest of the system supplies reacting energy.⁶¹ Hence, those who cannot endure a complete bath, can take a partial one, say of one limb in the morning, another at night, and so on till the whole body is bathed.

THE BED BATH, for cold-blooded, weakly persons, is the best of all the baths, for it cannot possibly injure. Try this: After being in bed long enough to get comfortably warm, pass a wet towel, previously wrung out of cold water and laid within reach, yet wrung lightly, over your whole body, if you are able to bear it, over a part of it if you are not, *under bed-clothes*; and the heat of your body will turn this water into steam, which now envelopes you, softens your skin, takes out fever in obtaining the heat to convert this water into steam, and promotes sleep. Many are too much run down to endure the *combined* action of air *and* water, who would be benefited by either separately. Yet both together are best where sufficient vitality remains to react.

LET THIS WET TOWEL LIE all night over any spot where you habitually feel any pain. Note how hot it soon becomes, and thus learn how much good it is doing you. And in general, whenever you feel any pain, apply a wet cloth, instead of consulting a doctor.

WATER EMETICS are as efficacious as any other, and leave the stomach emptied, but unparalyzed by its ejecting efforts. Mark on what different *principles* ipecac and lukewarm water act. The former is so utterly offensive and repulsive to the system, that it summons all its energies to expel it, making you so mortally sick as to compel a wrenching vomit; whereas, lukewarm water acts solely by virtue of its *temperature*. Both empty the stomach; but the nauseating drug has left more or less of its own loathed grains to irritate the intestines and impair the blood, while water leaves you well. Choose between them.

LOBELIA is a much better emetic than ipecac. A Thompsonian course, consisting of a steam bath, and hot capsicum and bayberry-bark tea, with porridge, followed by a lobelia emetic, certainly does bring up an astonishing quantity of ropy slime, which is much better out of the stomach than in; besides leaving you as bright as a lark, and able to renew labor at once. The disuse of what is so useful is unusual.

155.—THE ELECTRIC, MAGNETIC, SUN, AND EARTH CURES.

ELECTROPATHY often effects remarkable cures. Life is undoubtedly carried on chiefly by means of the electric or magnetic forces; health consisting in their regular, and sickness and pain in their disturbed action; and galvanism can be, and often is, so applied as to cure the sick by regulating their disturbed currents.

A MOTHER incidentally remarked that she expected any minute to be summoned to see her son die of consumption in a neighboring city; was advised to try the galvanic battery, to dissolve his tubercles, by putting the positive pole at the nape of his neck, and the negative over his lungs, which, done, so dissolved the pus in his lungs, that it literally almost choked him by running so fast out of his mouth; took out their inflammation; and he recovered; went to work; took a terrible cold eighteen months afterwards by standing around in the rain and slush to hear an out of door speaker in December; and when coming down the *second* time, cursed the galvanic battery because, by restoring him, it obliged him to endure the agony of dying twice; the first being virtually ended before the battery restored him.

ITS APPLICATION should be governed by this general principle. Sending the electric current *down* the nerves relaxes and takes out the inflammation; while sending it *up*, tones them up; that is, for inflammations, place the positive pole at the *head* of the nerve affected, and the negative at its end; but for paralysis or inaction, place the *negative* pole at its extremity, and positive at its origin.

DR. BOWLES, of Philadelphia, is the best practitioner on this system within the Author's knowledge.

LOUIS KOSSUTH SAYS GOUT can be easily and completely cured by staying an hour daily, eight to fifteen days, in the grotto Pistolies in the valley of Lucques and Pisa, by the patient, in a bathing gown, descending into the grotto, which is well lighted. There he has only to sit and admire the stalactites, or converse with friends. After ten minutes he sweats profusely, but not disagreeably. In an hour he is taken out, wrapped in a flannel covering, and after reposing a little, takes a cold shower bath. The curative principle of this grotto is, however, an enigma. In the warmest parts the air does not show more than 32 to 24 degrees (centigrade), and is less oppressive than that outside. Its water is still colder, but it is heated by the air, the chemical composition of which resembles that of atmospheric air, the only difference being a slight addition of azote. Kossuth attributes the remarkable qualities of the grotto to electro-magnetic agents, and in this opinion he is probably correct.

If electricity applied in this form can cure gout, it can be applied in other forms so as to cure both this and other diseases, this agent, not its form of application, effecting the cure.

ANIMAL MAGNETISM, consists in the magnetizer passing his hands from the top of the patient's head down the patient's face and arms, and shaking them at each pass, to shake off the diseased magnetism. The Author has cured and been cured of headache, teethache, neuralgia, and other aches and pains innumerable, by this means, and *knows* what he thus recommends. God thus kindly allows the well to heal the sick, without injuring themselves.

THE MAGNETIC BATH embodies both these cures, electricity and animal magnetism together, and often works wonders. It can be so applied as to raise and sustain in their places prolapsed visceral organs, and cures females thus ailing right along.

BASKING IN THE SUN is often resorted to by animals, especially in spring. Alligators, as soon as they are thawed out enough to crawl, mount some log, and sun themselves into warmth and life. Probably

electropathy and the sun-cure are virtually the same, and cure on the same principle, namely, by charging the system with electricity, and regulating and restoring its currents.

TO APPLY it, sit or lie nearly or quite naked in the sun, or remain in a hot-house nearly nude, or sit or stand or lie in the sunshine from a window, a bay window being the best, or bask yourself any way you like in the sun's rays. Hence, being out of doors when the sun shines is beneficial, but not enough to "raise a blister."

SHADED HOUSES are very unhealthy, because rendered damp by their shade. Many families lose one after another of their darlings seemingly from this cause and that, besides having some invalid member always on hand, yet really because their houses are rendered damp by shade trees, and hence mouldy, and therefore pestilential. You might mortally hate to cut down those grand old oaks your father planted, but had better let in sunshine by turning them into firewood, than inflict on the female members of your family, who suffer most, because always indoors, all the misery they cause them. Looking over those families living in shaded houses, see how much more sickly such are than those which occupy sunny ones, and learn the lesson thus practically inculcated. Those who build among trees may expect to patronize doctors, apothecaries, nurses, and undertakers. Still, trees on the north, north-east, and north-west sides of houses do no damage, and break cold blasts.

OPEN SHUTTERS and windows for a like reason drive out moisture by letting in the sun. Do you think to keep your houses *cool* by shutting out the air? Simpletons! don't you know that out-door air is always *cooler* than you are? Is it ever ninety-eight degrees? Does it not *feel* cool when it blows on you? Since it is *never* ninety-seven degrees, of course shutting it out shuts *out* the cold, but shuts the heat *in*. A recent French writer advises housewives to keep houses cool by keeping the windows and blinds shut. The thermometer will tell him, and all others who consult it, that any and all close rooms are hotter in very hot weather than open ones; because open ones allow the cooling air to sweep through and carry off the heat. Everybody's own *feelings* tell them that *all* draughts of air are *cooling* always, heating never.

HOT WEATHER also creates perspiration, which renders a draught of air still more cooling. Ladies, keep your doors, windows, and blinds open in hot weather, and, fathers, cut down all trees which shade your houses much.

THE EARTH or clay-cure is about equally efficacious. That is, the ground is highly electric, as "the magnet" proves. Contact with soil is marvellously restorative. A mud poultice applied to the stings of bees, wasps, and hornets, kills their venom almost instantly. This fact is full of meaning. Applying it to the bite of a venomous snake or mad dog will at once take down the swelling and ease the pain. Wet with water, spittle, spirits, any liquid, and apply at once.

FOR ANY pain, permanent or sharp, wear a dirt poultice; dry is good, but wet better; that is, every night lay on it a bag of earth or clay equal in size to the sore spot, and the first you know your pain is *non inventus est*. Try it for dyspepsia, liver and kidney difficulties, even consumption, catarrh, etc., and charge and credit the results to the Author. Though this application is *dirt-y*, yet it will make a "clean sweep" of your aches and pains. Try it for consumption, and you will snap your fingers at doctors' nostrums.

SLEEPING ON THE GROUND, or in a bunk of dirt indoors, will work wonders by way of drawing out disease, and toning up and restoring you. Soldiers, hunters, and others who camp out generally lose their aches and grow rugged.

GOING BAREFOOT is excellent for children, so is playing in mud puddles.⁶⁴¹

156. — PALPITATION OF THE HEART, RHEUMATISM, CATARRH, AND ASTHMA, THEIR CAUSES AND CURES.

A RAPID, POWERFUL BEATING of the heart, called palpitation, is rarely a primary disease, but usually only the effect of some other disease. It has two chief causes, dyspepsia and nervousness, and is a twin sister of both; so that the cures prescribed for those diseases will often cure, and always mitigate this ailment.

INTENSE MENTAL activity, both intellectual, and consequent on excessive study or brain action, or else passionate or emotional, as in unhappy love, amatory excitement, especially personal,⁴⁷⁰ are its chief procuring causes.

GENERAL diseases usually cause local ailments. One often breaks down his constitution, and fills his system with disease, which of course attacks the weak organs first. If his heart is weakly, though not diseased, it suffers the pain, not because it is especially disordered, but because it is less rugged, and therefore less able to resist, than the others. The load of disease breaks down the weaker organs first, just as too heavy a load breaks down the weakest wheel or part first;

whereas, the real trouble lies in the excessive *load*, but for which the weak wheel would work on passably well. The cure for the oppressed organs, like that of the weak wheel, is to take off the *general* load of disease.

COLDNESS of the extremities and skin, along with headache, usually accompanies it, because the blood does not flow freely enough to the former to keep them warm, while its excessive accumulation in the head causes a dull, heavy pain. The heart often suffers the pain, not at all because it itself is diseased, but because a thickening of the blood causes it to dam up as it passes through this gate; that is, the blood is too thick and turgid, and hence lodges about the heart. Surplus carbon, consequent on eating more than breathing, is its great cause.¹³³

ITS CURE, therefore, consists in eating less and breathing more. The oxygen of breath thins it,⁸² so that it flows the more freely. All thus afflicted have noticed that just as they inspire air its beat is quickened and strengthened, but slackens as they expire—proof conclusive that more copious breathing will obviate their difficulty. Such will also generally find their veins too blue, owing to a surplus of carbonic acid.¹¹³ Respiration alone can remove this from the system, and thus still further thin the blood. Iron may aid. Whatever promotes circulation will relieve the heart, by leaving less blood collected in the veins, and remove the headache by withdrawing that surplus blood which occasions the congestion and consequent pain. This, friction and the bath will do to much effect. The foot-bath will be especially serviceable. Animal Magnetism can also be successfully applied to relieve the heart and head.¹⁵⁵

RHEUMATISM, more painful than dangerous, proves that its victims have outraged some natural law—perhaps that of temperature. It generally results from colds. Gout does not differ much from it; while neuralgia is at least its first cousin. Try all the pathies in each form of this disease, especially hydropathy, by keeping a wet cloth laid upon the paining spot. A light diet is indispensable. The Turkish bath will sometimes rout it when other agencies utterly fail. Perspiration is its great cure. It can be applied directly to the spot affected, thus:—

WRAP OILED SILK or India-rubber cloth around the aching part over night. This will keep in the perspiration, and *steam out* the rheumatism.

ALTERNATE EXTREMES of heat and cold will be found an infal-

lible cure, not only for rheumatism, but for all other acute pains. It can be applied thus. Holding the aching part just as near to as hot a fire as you can possibly endure, till it becomes too hot to be borne any longer, then plunge it suddenly into ice-cold water, and repeat this process for half an hour, and your rheumatism, neuralgia, or acute pain is gone. If the pain is in your back, make it just as hot as you can endure, then let an attendant pour on a dipper of this ice-cold water above the paining place, so as to let it run down your back over the pain. Or, covering up warm in bed, put on a wet sheet wrung from water just as hot as can possibly be borne, cover up right warm, and let it remain fifteen minutes; repeat this process; then wring a towel from ice-cold water, and taking off the hot sheet, slap on the cold towel, and change it every fifteen minutes for a cold one. The most acute rheumatic affection can thus be cured in two hours.

CATARRH is an awful disease, but, alas, how common! Few wholly escape it. To say nothing of having a breath perfectly sickening, how noxious to the whole system is it to keep perpetually sweeping this foul, fetid breath into the lungs at every inspiration, to infect the whole system with its loathsome pestiferousness!

IT IMPAIRS THE BRAIN, and therefore the mind, memory, senses, power to study and think, and intellect generally. This is its greatest evil, and really awful.

COLDS, settling on the brain, causé it; and every cold makes it worse: so use all the means prescribed to prevent, and also to cure them.¹⁴² Its victims may well pay almost anything to get cured, yet need pay nothing. Either of these two remedies applied separately, much more both together, will cure it sooner or later, according as it has run longer or shorter. First:

A WET TOWEL, wrung from cold water, tied over the face, extending from the nostrils and lower parts of the ears up on to the middle of the head, during sleep, and pressed down snugly around the nose and eyes. The feverish heat consequent on this catarrh will all night keep turning this water into steam, which will keep carrying off this fever, night after night, and the first you know you will be well. If the disease has become chronic, it will hold on the longer, but the cure will be effectual. Next:

PASS SALT WATER up one nostril and down and out at the other. The "fountain syringe" has a nasal pipe just adapted to this passage. Snuffing up salt water, and also gurgling it in the throat, will do good, but the syringe is best.

ASTHMA is often a most distressing, though rarely fatal affection. It consists in the bronchial and air tubes of the lungs being too *small* for the lungs themselves. All thus troubled should habituate themselves to breathing *deep*, take *long* breaths, breathe with their *diaphragms*,⁸⁴ because their habitually practising this will tend to enlarge these tubes.⁶²

CATCHING COLD generally increases all asthmatic difficulties, so forestall taking them, and break up those taken right speedily.

A HEAVY ATMOSPHERE, by pressing heavily on the lungs, greatly promotes their inflation. One breathes with difficulty on high mountains, and inland localities, as also in balloon ascensions; and because the higher one is above the level of the sea, the lighter is the atmospheric pressure, and the less forcibly it pushes the air into the lungs.⁸¹ In Virginia City, Nevada, persons breathe with difficulty, because they are over six thousand feet above the sea level, that is, that much up in the air. Yet such need less breath, because the blood circulates more freely, for the same atmosphere presses equally less on the veins. There are few as good complexions anywhere as in those high altitudes. They make one pant for breath at first, but this is only temporary. Extra fleshy persons should not emigrate there. I never saw finer children and youth than there.

SECTION II.

ACUTE DISEASES, WOUNDS, CONVALESCENCE, ETC.

157.—TREATMENT OF ACUTE TYPHOID, AND CONTAGIOUS DISEASES, CONVALESCENCE, ETC.

GUARD AGAINST or forestall all acute fevers. They are not causeless, but *caused*; and that by precursors as apparent as they are violent. They generally gather a long time before they finally burst, and are usually the most violent in those whose constitutions are the strongest; because such unload disease as fast as it is generated, till some sudden cold stops up the outlet, when their powerful constitutions grapple right in resolutely with their disease, and the two struggle for the mastery so violently that one or the other must conquer promptly.

ALL SUCH can get well if they give the life-force a fair chance. A constitution able to set up so fierce a struggle, is therefore able to win a victory. Let them fight it out.

HEROIC medicines are positively dangerous in all such cases. Superadding their inflammation to that of the disease, endangers a sudden snapping of the cords of life. Let the life-force alone and it will struggle through; for it would not grapple thus resolutely unless it had the power to overcome. It would take hold more leisurely and cast out more gradually if it needed to. All Nature's provisions warrant this conclusion.

PREVIOUS CARE, however, will stave off the battle. Self-inspection can always tell beforehand that the thunder cloud of disease is gathering, and about how long before it will naturally burst. It is always preceded by a dark, livid red about the face and eyes; too much general inflammation; a bad and haggard, or else a wild glaring look, along with other signs of inflammation; including passionate irritability. Let such beware how they violate the health laws much longer; for retribution is knocking at the door preparatory to their arrest.

MOTHERS should watch these and other signs presaging sickness in their children, and take patients in season, put them on short dietetic rations, soak their feet in hot water, and put them to bed early, covered up warmly with a dose of strong catnip tea, so as to start the perspiration.¹⁴²

ACHING BONES, violent, sharp, darting pains, local or general, an irregular appetite, or none at all, restlessness, and bad dreams during sleep, etc., signify that the gathering disease-storm is about to burst.

BEGIN IN SEASON. Be especially careful not to take cold, to which you are now especially predisposed in proportion as you are loaded with disease. Keep well housed and warmed, but *eat nothing*. Let your system live on its *accumulated* carbon.¹¹³ Lay a wet cloth on your stomach nights. Motherwort tea taken on retiring to open your bowels will help. These and like means will probably stave it off.

TAKE YOUR BED as soon as the struggle fairly commences. Give up work before you fully feel that you need to, so as not to aggravate your malady. *Doctor yourself*. You are the one to live or die.² Or if you call a doctor, insist on *knowing* what he gives, and what effects are expected to be produced.

BREATHE, *breathe*,⁸⁴⁻⁸⁹ deep and fast, besides keeping your room well aired, and struggle resolutely against disease by will-power.⁷⁸ By all means secure as much skin action as possible.¹³⁹ If you are thirsty, drink, drink, so as to give your friend, fever,²³ materials to

hustle out corrupt matter ; and keep well covered up, so as to prevent more colds. If your fever proves to be chronic, take it patiently, assured that Nature will work just as fast as she is able, and do whatever is possible for your recovery, but she *will not* be hurried. Probably a few days will suffice to completely restore you, and leave you a *great deal* better than if you had not been sick.²³

A SICK ROOM needs common sense more than any other place, yet usually has less. Good ventilation is especially important ; so is an even temperature ; but *cheerfulness* in its nurse and attendants is more so. A sad, sorrowful, plaintive, whining attendant is awful. None should, by whispers, action, or manner, imply that there is any danger ; for this unmans the patient, even though a child, and this discourages or alarms the will-power, which is the great remedy.⁷³ Apprehension of death does more than all else to induce it, as hope and clasp on life do to avert it. Sympathy implies danger. Let the hopes and wills of attendants tone up those of patients.

TYPHOID FEVER is consequent on introducing *decay* in some form into the system. Close and especially dark, unventilated, unsunned bed-rooms are their prolific generators. So is living to the windward of cemeteries in which decomposing bodies infect the air breathed continually. Decaying vegetable matter especially in cellars, proximate cess-pools, slaughter houses, soap factories, etc., infect the system through the lungs. It is generally inhaled, as is fever and ague.

TREAT as for fever and ague and other fevers ;²³ and be extra careful for a full year not to bring on a relapse, nor contract colds.

DISINFECTANTS will generally prevent them. M. Fille has published in the *Archives Medicales Belges* an interesting article "On the Value of a Disinfectant," in which he says we must not only get rid of offensive smells, but of all other products of decomposition, and that any substance which only effects one of those ends is a very imperfect disinfectant. He then passes in review some of the disinfectants in common use. Sulphate of iron, he considers, is useful from its action in decomposing ammonia, carbonate, and sulphohydrate. Perchloride of iron, besides this, precipitates albuminoid matters, and acts also by its chlorine. Lime disinfects organic matters, fixing carbonic acid and sulphuretted hydrogen, and decomposing hydrosulphate of ammonia. The permanganate of potassium is a most energetic oxidizing agent, decomposing sulphuretted hydrogen, destroying organic matter, and acting upon all fixed compounds with which it comes in contact. Chlorate of potassium may be used to disengage

chlorine in places like cesspools, that are not easy to reach by other means. Chloride of lime acts by the chlorine it sets free, and chemically decomposes most foul gases. Carbolic acid hinders the formation of miasms, and is, therefore, a good preventive of epidemics.

CONTAGIOUS diseases are easily managed, and need rarely prove fatal. Small pox can be so treated as completely to rid the system of all its morbid matter, and give a twenty years' extra lease of life. Proceed thus :—

1. AFTER EXPOSURE, and before it sets in, eat but little, and take two or three good sweats by the hot bath, steam bath, Turkish bath, or drinking hot water or teas, going to bed, and covering up warm. Meanwhile avoid all exposures to colds.

2. WHEN IT SETS IN, *do but little* except to be *very* careful not to get cold, or any set back.

3. A FLOUR POULTICE on your face after the pits begin to head, will prevent all pits and marks, and help their forming. It should be worn constantly till they are healed. Never touch a scale till it falls off of itself.

4. AFTER THE TURNING of your disease, and renewal of appetite, be extra careful not to over-eat, or eat what is injurious, or over-do.

5. IF ANY PART fails to fill out well, lay a wet cloth on it, wrung from cold water, and keep changing it often.

6. KEEP UP deep and fast breathing continually.

7. TRUST TO NATURE, and allow no fears.

HOW ONE RECOVERS, is most eventful for good or evil. If you "get up" right, you will be regenerated, physically and mentally, by the "sick spell," and live many years longer than you otherwise could have lived.

RELAPSES are always more dangerous than the original disease, and often fatal, and by all manner of means to be avoided. Yellow-fever patients usually die of them, but rarely of the fever proper. There is no earthly need of them. Right care and nursing, always more important than doctoring, will prevent them. Remember that the system is *exhausted*, and hence very susceptible.

CHILDREN, by tens of thousands, get up from measles, scarlet fever, etc., so poorly that they are ever afterwards ailing; whereas, a little care after the disease turns, would leave them better than before.

DON'T GET ABOUT too soon. You feel that you are able to do more than you can do without injury. Be sure to always keep far *within* your strength, and ever on the side of safety. Twice in his

life the Author did his constitution almost irreparable damage by resuming work too soon, once after the varioloid, and once after the typhoid pneumonia.

DON'T OVER-EAT, and be careful as to *what* you eat; but eat often, and always leave off hungry.

COLDS are your worst enemy. Look out for them. Remember what a herculean task your skin has just achieved, and how weak and susceptible to colds it must therefore be.

A LONG FURLOUGH from business is now most desirable. It will let you get *right* well before you harness up, and enable you to make many times more money in the long life run with than without one.

MOTHERS and nurses will find directions for keeping children well, and managing sick ones, in Part VIII. of "Sexual Science."⁶³⁷

158.—TUMORS, ERUPTIONS, WARTS, MOLES, SCALDS, BURNS, WOUNDS, BOILS, SORES, ETHER, ETC.

LEAVE TUMORS UNCHECKED. Rely for their cure on learning and obviating their cause. As long as that corruption which causes them continues to gather, this outlet of it should be allowed to remain open; else its inward accumulation will clog and cripple all the other parts. Open sluice-ways for its free exit is your salvation, and to be encouraged, till you can reach its fountain, and stop its manufacture. They may, and may not, need the knife. If not, keep a cold wet cloth on them, and let them alone; meanwhile asking yourself how, by violating what law, you are generating this corruption, and head off its manufacture, but not this embodiment of it.

CUTANEOUS eruptions are governed by this same law, except what are "catching." Don't put on anything to *dry up* such eruptions. Every pimple is a blessing. Better neither corruption nor pimples; but as long as the corruption remains, allow pimples to eject it. Meanwhile look around sharply for its cause, and cure your pimples by obviating that laboratory of corruption in which they originate, besides taking more care of your skin.

WARTS, MOLES, etc., can be killed by being burnt out with scarcely the least pain thus. By so holding a sunglass or strong lens in the sun that its focus shall cover the head of the wart or mole for a minute or two, you kill the life of its head, and within a week it comes out from its *roots*, a smooth skin forms in its place, and it is dead without leaving any descendants. This cure applies equally to all hair moles.

SCALDS, BURNS, etc., should be at once immersed in water, cold or warm, as is most agreeable, and kept there till their smart ceases, then cover with flour, and *let alone*. The fact that after half or more of one's skin has been scalded or burnt, he must die, is full of meaning, and shows how absolutely essential is its office; but if those scalded by hot water or steam, or badly burnt, will jump into cold water, clothes and all, or can have pails of cold water dashed on them, they will instantly stop their hot clothes from burning any more, and take out the burn more effectually than by any other means. Or, if a hand, arm, foot, or any locality is thus burnt, either hold the parts in water, or else bind on a wet bandage, or lay on a thickness of cotton cloth, and pour on cold water, gently but steadily, till the pain ceases.

THE COLD probably effects the cure,¹⁵⁴ because, as soon as the flesh heats the water the burn aches; whereas, *moving* it in the water, that is, keeping *cold* water next to the burnt skin, eases and cures it.

A STRONG TEA POULTICE, bound on, grounds included, and left to lie untouched for fifteen to twenty-four hours, will allow a new skin to completely coat over the burnt part. This cure is simple, but absolutely effective. Yet it must not be disturbed for fifteen hours.

CUTS AND BRUISES should be done up in their own blood, before they stop bleeding, and then *let alone*; or, if they pain you, keep them wet with cold water. *Blood* is the best dressing in the world. It coagulates and dries, thus forming an *air-tight covering*, which *seals up* the wound while Nature goes on to heal it. Do salves or plasters carry off waste matter, or insert new flesh? They are better than nothing, because they keep out the cold, protect it, etc., but do that far less effectively than a blood poultice.

POWDERED CHALK on all kinds of sores and raw places is most excellent. It unites with the exudations to form a perfect coating under which the healing progresses finely.

DRESSINGS irritate, and must be avoided as much as possible. Of course, when suppuration is in progress, the yellow, corrupt matter thus formed must have an outlet, which can easily be made through this blood overcoat.

EVERY TOUCH pains, because it injures.¹⁹ Let our involuntary shrinking from it warn all to *let them alone*.

RUPTURED ARTERIES must of course be taken up and tied, but this belongs to surgery, that wonderful art in modern hands, which we leave to surgeons. Yet they often amputate limbs which could be saved.

CANCERS may, but may not, be curable by cundurango. If it really proves efficacious, of which there seems considerable doubt, if it dissolves and neutralizes the cancerous ingredient in the blood, it will be a great public blessing; for there is an incalculable amount of *internal* cancerous disease, especially in females, which creates cancers in the stomach, intestines, etc.

SLUFFING is probably the best cure. By a recent discovery, all the affected parts can be completely sluffed off, when the wound readily heals.

INFLAMMATIONS are usually due to an accumulation of fibrine, and obviously a healing or formative process.²³ They are governed by that curative law already applied to fevers.⁷¹ Rejoice that the part inflamed has sufficient vitality to *institute* inflammation.

COLD WATER is your best restorative. It will probably give a feeling of comfort, and whatever *feels* good *is* good.

ETHER, or laughing gas, now extensively used in surgical operations, deserves notice. The Deity understood Himself and His work when he created pain, but has graciously superadded Vitativeness to resist it.⁷⁶ By resolutely bracing up against it, we can "grin and bear" almost any amount of pain and disease. This mental resistance to pain is that "will cure" already presented.⁷⁸ The provisions of *God in Nature* are the best possible, and worthy of adoption. Those who can make up their minds to endure heroically whatever pain is inflicted, had better dispense with these destroyers of pain which suspend consciousness. There are cases in which they become suddenly fatal, and many others in which the nervous system never fully regains its former susceptibility. One had better bear any amount of pain than blunt this sensory *capacity* itself. Each and all should judge for themselves, but at least inform themselves beforehand. Its administrators should give as little as possible, and its takers should give extra attention to their health for days before and after. The Author, speaking only for himself, would do without taking it just as long as possible, and then take as little as would barely suffice. It must needs do only damage in childbirth, because it simply *suspends* pain and all the other functions aboutequally, besides necessarily affecting the nervous system of the infant.

159.—FEMALE WEAKLINESS; ITS CAUSE AND OBTVIATION.

FEMALE HEALTH concerns every man, woman, and child more deeply than any other public problem, and unborn generations more

still. Robust, healthy women are more desirable, yet rarer, than any other commodity. The women's rights question is nowhere, as to practical importance, in comparison with woman's health. To attempt to say how infinitely important it is to every woman herself, is to attempt the impossible. And it is about as important to every man as woman. And still more so to children, and those yet unborn the most. Modern "society" suffers more to-day from the acknowledged feebleness of the female sex than from all other evils put together. Let the individual experiences of nearly all say how much.

AMERICAN "society" suffers by far the most. In no nation on earth are women as weakly, yet in none is female health as desirable. How feeble are nearly all, and how sickly are most American ladies, it is not our present purpose to say; nor to discuss their special ailments as such; but only to inquire after the *causes* and remedies of their present weakness and physical debility. Women, and men, come with me to the solution of this portentous problem.

BY NATURE the female sex is as healthy as the male. German and Irish women are about as healthy, and almost as robust, as German and Irish men; and squaws as Indians. That this modern and American debility is due to the *habits* and usages of civilized life, is demonstrated in the palpable fact that the female sex, among the peasantry and uncultivated, is about as strong and robust, and as uniformly healthy, as the male. This shows that modern female weakness is easily avoided; that it originates in *style*, not Nature—in *fashion*, not necessity. Female drudges are healthy. Only *ladies* are weakly and sickly. Mark this universal *fact*, and learn the lesson it teaches.

MUST MAN, then, put up with either a strong, robust, healthy, coarse-grained, uncouth wife, or with a weakly, nervous, sickly one? Has he no alternative? For if not, his lot is as hard as that of woman herself by being doomed to drudgery or feebleness. The trouble is not inherent. God has made all things wisely and well, but "*society*" has sought out many foolish inventions.

A HEALTHY LADY is not impossible, yet is *very* rare. But if any can be healthy *and* refined, of course *all* can. Why need refinement blight the female physiology? It need not. The two are not antagonistic, but were made to accompany each other. She is unfortunate who has either without the other.⁶⁶⁰ Woman certainly needs refinement,^{356 362} but she needs good health still more, both as a human being,⁶⁹ and as a female.⁶⁰³ Both are natural concomitants. Only false

sanitary usages separate them. In the good time coming, men will be blessed with wives who are both fine-grained, delicate, intensely emotional, and exquisitely tasty, not occasionally, but *generally*; not by now and then one, but by *millions*; and be infinitely blessed therein. And *some* readers will live to see that glorious day. It may tarry, but it will certainly come. And come just as soon as men choose to prepare its way.

WHAT CIVIC USAGES, then, render ladies so uniformly weakly or else sickly? The causes to a fact thus uniform must needs be perfectly apparent, and very aggravated.

VIOLATION OF THE LAW OF BALANCE,⁶¹ is the great cause. That law is both absolute and universal. It governs women as well as men. All degrees of its violation are punished with proportionate severity. Modern female education, which, to be rightly named, should be modern female *ruination*, consists in a steady, persistent and intense taxation of the *brain* and nervous system, from the very cradle.

THE LITTLE GIRL must learn to read before she has fairly learned to walk, be confined in school, and made to sit still, while yet a mere little tottler. She needs and desperately craves exercise; but no; poor, dear sufferer, she must enter from her cradle upon her lady-modelling martyrdom, just as her Chinese sister in sorrow must put on the ever pinching shoe; and both deserve equal pity. Cannot both customs be abrogated? She needs and craves exercise;¹⁴⁹ let her take her fill. Her first great specific "ruination" consists in the *conjunction* of these two things: preventing bodily development, but stimulating mental, to its very highest pitch. And this error is kept up throughout her miscalled educational, but really ruinational career.

STUDY is not what hurts her; for she could study all she now does, and much more, without injury, *provided* she also *exercised* proportionally. Neither separately, but both *together*, work all this physical ruin. Give her the full liberty of yards and fields, and she will grow up both talented and robust, healthy and refined. Her romping desire grows on her till three years after puberty; but no, she must *primp* up, dress up, pretty up, and be so very precise and *proper* in every word and action. Her gushing girlish *nature* must be as effectually cramped and dwarfed, as a Chinese lady's foot is by her tight shoe, worn night and day.

THE BEAUX next tickle her already feverish excitability up to fever heat. She talks of them, and of little else, by day, and thinks mainly of them by night, and perhaps suffers nervous paralysis from

excitements. Of course sitting still retards her growth, and interferes with the formation of a good constitution, perhaps even undermines it. What a little bit of a thing she is. At length her ambition is roused to become a premium scholar. She not only studies, but she *worries* day and night to get her lessons, and for fear she might miss one question or word; her anxieties straining her nerves even more than her studies.

NOVELS AND MAGAZINES, with a love affair or two thrown in, now finish off her nervous ruination, which really is by this time becoming complete. Cultivated or fashionable female life is one dead strain on the brain and nerves all the way up from cradle to death, which therefore usually transpires early. Why cannot fashion-makers get up those fashions which will *promote* female health instead of ruining it? and why will women follow and impose on one another any ruinous fashions? Woman is by far too precious and too lovely to be thus offered up on the altar of fashion, which is not worth all this sacrifice.

FEMALE APPAREL is another cause of female feebleness. Its construction is constitutionally destructive of health from first to last, and head to foot. All this false rigging of the head and compression of the arms and shoulders; this lacing of the waist and loading of the hips; these visceral displacements,¹¹⁸ caused by the perpetual dragging down of clothes, including consequent local overheating; the narrow, pinched-up shoes, to make the feet look genteel and prim, thin soles and thin hose included, collectively, are enough to ruin the constitution of an alligator, much more of a woman naturally weakly, and then overtaxed mentally, and cramped physically. Female health demands, all men, and especially all prospective children demand a complete *revolution* in the female toilet; and the recent dethroning of the queen of fashion renders this a most auspicious time to begin this greatest of all reforms. Its inconvenience, in tangling the feet in walking, and especially in ascending stairs, should alone doom it to oblivion. Woman's rights righters, come right up this most irksome of woman's wrongs, a ruinous toilet. And it ruins the female *spirit* the most.³⁸⁰

OUT-DOOR EXERCISE is now woman's special need. *Confinement* to the school-room, the house, and the nursery is her greatest curse. She needs something to care for, nurse, and do in the open air. To do anything about house is ungenteel, and to walk abroad is unladylike. To remain *within* is her fashionable doom. Some excuse for going abroad, something out of doors to call and keep her more in the open air and sunshine, is her great requisition.

FLOWERS AND BERRIES furnish this needed excuse. To admire and nurture them, thank God, is yet "genteel." Do, ladies, make one grand rush for flower-beds and flower-pots. Besides showing your gardener, take hold with your *own* hands. Yet your apparel is really a great hindrance.

A STRAWBERRY bed, a berry patch, and a vegetable garden increase woman's range of out-door excuses; and so does skating in winter; but she requires some genteel *play*, some laughter-promoting *sports*, which shall furnish a great deal more muscle-developing *exercise* than croquet, and yet allow both sexes to participate.

FEMALE TOURISM bids fair to do something in this direction during July and August; but something much less expensive and fitful, and more consecutive, is needed, which is available all the year round.

LADIES AWAKE to your own emancipation, and then summon men to your aid. And let men and women join heads and hands in promoting this greatest American desideratum—FEMALE HEALTH. Fashionable *exercise* is the main prerequisite and restorer,¹⁴⁹ as excessive cerebral taxation is the main debilitator.⁶¹

160.—THE AUTHOR'S PERSONAL HEALTH EXPERIENCES.

FROM YOUTH, all along up till now, I have had my attention directed quite as much to the human Physiology as Phrenology; because it plays quite as important a part in human weal and woe, and in whatever appertains to life. My profession has kept thrusting this problem perpetually upon my attention, in one continuous round of ever-varying aspects, which I have eagerly observed, and assiduously deciphered.

AN EXPERIMENTAL CAST OF MIND was a hereditary legacy. This trait made me a Phrenologist. I was bound to *see and know experimentally* whether *facts* sustained or contradicted the assertions of this science; and found they did in every particular.⁴⁷

HEALTH EXPERIMENTS enlisted my attention, *pari passu*, with phrenological. I began them when I started for college, and partly as a matter of necessary economy. My boyhood was quite like that of other boys born in log cabins, and helping "father" clear off a new and very stony farm, on which I did *all* the ploughing among roots and stones together, from ten to seventeen; of course, working very hard.

THE COLLEGE MESS constituted my first dietetic experiment—a dozen students uniting, agreeing about how high we could afford to

go, appointing a contractor, who hired a room and cook, bought provisions, and was captain-general of the mess. I joined those which averaged from sixty to eighty cents *per week*, for food alone, and had enough; though I sometimes boarded myself cheaper, by living mostly on bread and milk; yet not living well enough then for health.

PRESIDENT HITCHCOCK's abstemious views, already quoted from, I accepted,¹¹² and carried them somewhat too far; considering that I took a great amount of exercise all through college, by sawing dry hickory wood in two twice, and backing it up four and *five stories* for only *seventy-five cents per cord*, thus earning most of my collegiate expenses. But over-working with underfeeding wore in upon an excellent constitution. I violated the law of *proportion*.⁶¹

In 1835 I began my vegetarian experience, with results already detailed.¹⁰² Whether, on the general average, it improved or injured, its beginning or else its accompanying bathing, perhaps their union, was certainly most beneficial; whilst a return to a mixed diet was about equally so.

AGAINST ONE of my habits, writing nights, I warn all concerned. The composition of every one of my early books caused a sickness, more or less severe, on its completion, probably consequent on *night* writing. Unable to write during the day, because continually interrupted by professional calls, I wrote nights, and often till daylight. My day labors were enough for any man, and, when supplemented by night, became too much for any. On retiring, a fitful, dreamy state precluded sufficient sleep. This obtained up to 1869, and prevented my writing more than one work between 1850 and 1869.

A SEVERE VARIOLOID ATTACK, caught in 1841, in professional practice, almost ended my life. Unaware that I had been exposed, I worked on till it had actually broken out. I felt very badly for a day or two, administered to myself a Thompsonian course, Thursday, P. M., lectured Thursday evening, that night went to a new home, for the first time so sick that I sent for Dr. Lee, now of Buffalo, who pronounced it small-pox; kept my bed ten days, suffering terribly in the head meanwhile; steadily refused to take medicines; adopted the let-alone-path, excepting using a wet cloth on my forehead; was pronounced hopeless Saturday night, but I ordered a tub of cold water brought to my bedside, and a dozen cloths kept soaking in water, and changed every five minutes all night; broke the back of the disease that night; was prescribed wine whey Sunday, which I refused, for I wanted only to rest and breathe; found my appetite returned Monday,

and Wednesday most foolishly and wickedly began to revise "Matri-mony," which brought on an intense pain in my forehead, that lasted and tormented me incessantly till 1865; all of which would have been avoided simply by waiting a week or two before resuming my pen.¹⁵⁷

From 1835 to 1849 I ate two daily meals, then only one till 1865, was benefited by changing from three to two, and also by changing from two to one; but still farther improved by returning to two, which both observation and my own experience convince me are the best, and taken before beginning, and after finishing, the day's work.

AN INHERITED weak stomach, and consequent dyspepsia, was my perpetual plague and enervator from 1827 to 1865, since which it has disappeared wholly, leaving instead the digestion seemingly of an ostrich; though it has been gradually improving since 1835.

A TERRIBLE TYPHOID PNEUMONIA in 1860, contracted by the striking in of the perspiration incident to sea-sickness, while crossing the Bay of Fundy, where the tide rises and falls sixty feet, after lecturing all summer, and continuing to redouble it by lecturing instead of giving up to it, came within an ace of ending my life and labors together. Lecturing first between two open windows, and then with a window open on my back, was the immediate occasion of this attack. Three doctors pronounced death inevitable, but missed. The special danger lay in diarrhœa supervening on the turning of the disease; which was averted by using water enemas, with a little Cayenne pepper.

AFTER BECOMING CONVALESCENT, the doctor said six months was the soonest time possible for resuming lecturing, yet I resumed in less than six weeks; but a relapse was induced by lecturing in a cold hall, which induced a terrible cough and consumptive attack, compelled another five weeks' suspension, and left my nervous system extremely feeble, which took two years for recovery. I serve this absolute injunction on all typhoid patients—to wait several months after they think themselves perfectly restored before again resuming work.

THIS TYPHOID gave the death blow to my dyspepsia, which an important adjunct in 1865 completely routed and annihilated, followed by a marked improvement in every aspect of health and intellectual vigor; and in 1868 that expectoration already mentioned routed the last remnant of my inveterate headache, and prepared the way for the resumption of my pen. But for my wickedly resuming work too soon after both my sicknesses, no such intermission need or would have occurred. Let all similarly circumstanced take warning.¹⁵⁷

SEVERE PAIN in my forehead supervened almost immediately on resuming my night authorship, accompanied with fitful dreams on first retiring; to obviate which I wore a cold wet towel on it during sleep, which took out every night the inflammation engendered by the previous day's and night's work. Night writing is unmistakably bad. You who enjoy morning papers little realize the wear and tear of brain and constitution which serves up this intellectual breakfast; and those who write nights must sleep abundantly, and keep a cool forehead, somehow.

"SEXUAL SCIENCE" occupied just one year in preparation and proof-reading. Its amount of thought will bear inspection. To prepare a *philosophical* page, requires much more deep thought and adjusting of ideas than any other. To *average* three such pages *per day*, and revising, costs more labor than originating—to lecture twice per week on the average, summer and winter, and do all the requisite agency, and then transact all the *office* labors besides, would soon break down most young men, much more old. My usual day's routine was, in summer, to rise before the sun, write till after ten, breakfast, wait on professional calls, read proof, answer correspondence, and rest till seven P. M., then write with all steam on till eleven; but in cold weather, to rise at eight, and write from seven P. M., to two A. M., never going out of doors except to lecture. How I endured all these severe and varied labors without breaking down is unaccountable, unless by the efficacy of my doctrines. Their effects for good on those who desire or require to perform great brain labor are certainly wonderful.

A HEARTY APPETITE uniformly accompanies severe and protracted brain labor, whether professional or in authorship. *Mind* uses up organic material quite as fast and effectually as muscle, and *promotes* digestion, instead of retarding it. Vigorous health is as compatible with severe and protracted study as work. I regard my ability to sustain severe and protracted brain labor as something marvellous, and proving the efficacy of my doctrines in my own person. I attribute this power chiefly to three things:—

1. Having taken a very great amount of muscular exercise all the way along up from boyhood till after fifty.

2. Having kept well slept up. Sleep I *will have*, and know how to get, and get mornings what I fail to get nights.

3. Uniform correct habits, and total abstinence from alcoholic liquors.

I CERTAINLY NEVER before felt as well, nor as well able and willing to work, nor as little fatigued by it, and now have every prospect of being able to continue work hereafter as heretofore, till after "three score years and ten." To know how to pile on and endure any desired amount of hard work decade after decade, without breaking down, is certainly no mean *practical* recommendation of one's doctrines. They will be found to be much more efficacious in *practice* than theory.

161.—RULES FOR PRESERVING AND REGAINING HEALTH.

FORMULAS, or short laconic rules for attaining desired results, are given in arithmetic, and all the natural sciences. Whatever is governed by laws has these rules. Health is thus governed,⁷² and has its summary rules, or short but explicit direction for preserving and regaining this best of all acquisitions. We propose to enrich this Part with a few of them; accompanied with their reasons.

1. STUDY THE SCIENCE AND LAWS OF HEALTH.

CERTAIN CONDITIONS accompany health, which all are sacredly bound to *know*, that they may fulfil,¹⁹ and *study*, that they may obey.²⁴ Get what aid you please and can from books, conversation, experience, observation, etc., and then make their summary *results* a matter of *personal* investigation, and right hard searching inquiry. All through life you will need to know for your own *self* what will promote and what impair this sacred treasure in yourself. So post yourself; the more, especially since you your own *self* are the main one to be benefited thereby, and the one *personally* concerned in the matter.²

2. OBSERVE THE EFFECTS of these things and conditions, and of those, upon yourself.

CONSTITUTIONS DIFFER. "What is one's meat is another's poison." Cold water applications may benefit you yet injure another; or warm water may be best for you, but injurious to another. What you especially desire, is to know just what kinds and quantities of food, how much sleep, what kinds of external applications, etc., are best for *yourself* first, others afterwards. *Experience* is immeasurably your best teacher, for she has a way of enforcing peculiarly impressive. She is sometimes dear, but always thorough. Note especially her chastisements. They never come unless in reproof for some great health outrage. Never allow yourself to be punished twice for the same offence. Learn the first time, so as to escape a second suffering. Be quick to "take the hint." Keep your eyes wide open, whenever you do suffer, to spell out the cause, and ever after avoid it.²² The

elephant Romeo, in passing a bridge twenty years ago, broke through, and was lifted out only after suffering great pain. Lately he came to the same bridge, but absolutely refused to cross it. No persuasions, no punishments could get him on to it. Remember the bridges which carry you over safely; but be at least as wise as this elephant, in absolutely refusing to expose yourself to a second health catastrophe from the same cause.

NOTE YOUR OWN changes: What your constitution could weather and turn to good account twenty years ago may break it to-day. Keep well posted as to the *current* requirements of your health market.

TRY EXPERIMENTS and note their effects on yourself, being careful not to prosecute any which are injuring you. Eat this for a time, then that, and note their different effects.

3. LEARN FROM OTHERS.

THIS NEIGHBOR had a terrible fever or fit of sickness. He will gladly tell you all about it, for he loves to talk about himself; you meanwhile spelling out warnings and directions by which to escape the pit into which he stumbled.

A TYPHOID FEVER has attacked this, that, the other member of a neighbor's family. For years some one in it has sickened, possibly died, perhaps all taken about the same time of year, and their sickness quite alike. If that family is your own, "step around" right lively till you ascertain what caused it, and look sharply when others suffer.

IF A DARK BED-ROOM is in the house, you need look no farther. Breathing over and over again, night after night, the same poisonous effluvia, has loaded the systems of those who sleep in it down with corruption, and induced this attack. It may be caused by a cesspool close by the window, by vegetables decaying in the cellar, a leaky roof, stagnant water to the windward, etc., etc. Scan all like conditions. If they are all right look farther.

THE HEALTH HABITS of that family may be wrong. They uniformly eat hot saleratus bread, and buckwheat cakes swimming in butter, or eat voraciously, or late suppers, etc.

A DARLING CHILD sickens and dies. Something caused that death.²¹ See if you can spell it out, and take warning from it not to lose your own by a like means. In short, learn all you can from other people's sicknesses; and equally from their health.

4. WASH your face and hands every morning, and limbs and body alternately every other morning. But be especially careful to estab-

lish a subsequent reaction and glow. So modify your bath that you can withstand all colds from it, and secure only benefits.¹⁴¹

5. CHANGE YOUR UNDER GARMENTS DAILY.

NEVER SLEEP NIGHTS in what you wear by day; but wear and air each every twenty-four hours. They absorb a great amount of putrefaction while on you, so give the air a chance to take it out. Air beds and bedding often and well.

6. DO SOMETHING WORTHY OF YOURSELF.

WORK UP your constantly accumulating vital forces. Inertia is terribly paralytic. Few things are equally so. Have some great *motive*, some paramount life *object*, some mental or physical *work* in hand, worth accomplishing, and if possible, something in which you are thoroughly, deeply *interested*, so that you really love your work. On no account hibernate. If you have money enough, set up some other object or idol; but if you want more money, set about making it; and *stick right tight to it*. What is worth doing at all, is well worth doing *well*. Do nothing "just for now," but everything thoroughly, so as to last. It is better to wear out than to rust out. Nothing is more wholesome than *work* of some kind.¹⁴³ Choose head-work, or hand work, and the kind of either you like best, but select something, and then pitch right in. You will sleep the better, feed the better, be the stronger, live the longer and faster, and be every way the better the harder you work, provided you do not overdo.

7. KEEP WELL RESTED UP AND SLEPT OUT.

There is little danger of your over-doing, provided you rest out daily. Your clock of life will not run down if you wind it fully up diurnally. Make it a fixed rule never to begin any day's work till that of the preceding day is squared off by laying in the next day's stock before you begin its use. By resting till noon, if needs be, you can do the more work in the afternoon than if you had worked all day, tired; while the latter draws on the *constitution*, the former improves it.⁶⁹

8. KEEP YOUR BODILY MACHINERY IN GOOD RUNNING ORDER.

AS SOON AS anything gives out, stop at once, and repair damages. If you still work on, expect a wholesale "smash up." Remember the importance of all to each. Life will not go on without all its functions.⁶¹ The better you keep your machinery repaired, and in good running order, the more and better work it will do. Keep well oiled up. Nearly an hour should be spent every morning in taking the nicest care of your person from head to feet; ¹³⁷ shampooing your

bowels,¹¹⁸ washing and rubbing and caring for your feet, patting your head if, and whenever, it aches, and attending well to your person.

9. NURTURE AND FAVOR ALL WEAK FUNCTIONS.

STRONG ones will generally look out for themselves, but weak ones need balancing up. Be especially careful not to violate Nature's law of balance.⁶¹ Be doubly careful not to over-tax weak organs. Examine your machinery, to see which is being worked too hard, or too steadily, and give it the more time to rest the harder it is worked. If you are consumptive, favor your lungs; if dyspeptic, your stomach, etc.; and if your business taxes your muscles only, intersperse study; but if it is all brain labor, take daily and vigorous exercise; especially if your brain and nerves greatly exceed your muscles by *constitution*. Nature *will have* balance, or punish you for want of it. Watch your children lest they *grow up* unbalanced.

10. FOLLOW NATURE, by eating when hungry, drinking when thirsty, sleeping when sleepy, etc., but then *only*.

INSTINCTS to eat, sleep, etc., were created to be *followed*. They either are, or are not, reliable guides. God made them expressly to direct us. We should see that they are not perverted, but should implicitly obey their calls. As far as they are normal, they constitute a *perfect* guide. "Nature's calls are few, but loud." Hear and attend to them.

11. SUPPLY YOUR SYSTEM WITH WHATEVER IT REQUIRES.

NOTHING IT NEEDS is too good for it, while its denial saps life entity at its fountain head.¹⁶⁷ As you would feed your hard-working horse, so feed your hard-working organism, not with bread and meat merely, but with breath, exercise, sleep, and whatever else it requires.

12. RETIRE WITH WARM FEET.

GOOD SLEEP is not possible while they remain cold. Nature must keep you awake till she can warm them, which may take her hours. Warming and keeping them warm by their exercise, friction, etc., is far better than by artificial heat. To warm them by hot water, bricks, stones, etc., is better than retiring with them cold; yet it is to them what laziness is to the muscles, or nailing a tree to a wall is to its trunk—weakening.⁶² This is equally true of all use of the warming-pan. If necessary, *toast* them well before you retire; but rely as far as possible on *natural* warmth.¹³¹

13. NEVER GET OUT OF BREATH.

BREATHING must always keep even pace with your exertions; but *never fall behind* them. Nature *will not trust*. She must *get* energy

before she can expend it. Nothing draws on the constitution as does working beyond breathing. Let those awful feelings consequent on panting for breath, attest its hurtfulness. If you must run a long way, or work with all your might, *keep your wind*. Do not do or run so fast the first few minutes as to labor for breath afterwards, so that you give out on the last heat, and lose the effort.

14. BEGIN AND CLOSE OUT ANY POWERFUL EFFORT MODERATELY.

WHAT FOLLY to work so hard in the morning as to break down before noon, and lose all the afternoon's work! Start in leisurely, and increase effort gradually, doing two-thirds of your day's work in the afternoon; but slacken off gradually towards the close; being especially careful not to expose yourselves to colds, or anything injurious, till well rested up. Few of Nature's operations are sudden, except what are destructive. Sunlight waxes and wanes gradually. Begin far below your strength and work gradually to and from its meridian, but never stop anything suddenly. Any horse had better be put right through his day's work at one heat, than make "two bites of a cherry." One *full* effort, and then lay off. Otherwise make two days of one by one exhaustive work, a rest, a meal, and then another day's work in the afternoon. A like plan will enable INVALIDS to get well two days in one by a midday sleep.

ALL INTELLECTUAL EFFORTS, public speaking, writing for the press, and the labors of a lifetime are governed by this law. Many men throw so much more energy than is needed into the first few years of business as to unfit themselves for sustained effort ever after. By the time they have worked up a business, they must leave it. As soon as they get fairly started in life, their working power is used up.

15. AVOID SUDDEN CHANGES.

HABITUATE YOURSELF GRADUALLY to any required changes and modifications of your mode of life. If accustomed to a sedentary life, you find a more active one necessary for health, business, or pleasure, begin the change slowly and increase by littles. If a citizen, you go into the country for vacation, and choose to go into the hay field, work moderately, even lazily, along for days till your system can adjust and adapt itself to this physical revolution in your habits.

16. BE DOUBLY CAREFUL WHEN ABOUT FIFTY-FIVE.

RECUPERATION begins to wane about that age. Self-abuses before that are soon made up; but after that Nature demands respite and favoring. Slacken off effort in the afternoon of life, as towards the close of the day. Favor yourself by working easily, and husbanding

your strength, and you may work on twenty-five years longer; otherwise not. See how many men die, or else give out, between fifty and sixty, and take warning.

STILL LATER in life, when Nature gives warning that she does not intend to do much more repairing on your organism, be doubly careful to *need* but little. Octogenarians and even septuagenarians, be extra careful of yourselves.

17. AVOID ALL PASSIONAL EXCESSES all through life.

THINGS PERISH with their using. Many men *burn out* one or all of their passions early in life; so that ever after they "have no pleasure in them." This doesn't pay. This sensory principle is well worth preserving for future use.⁴⁴⁸ All the passions are good in their places, but must not be allowed to run tandem.

VIOLENCE of passion sears the nerves. It is to them what looking at the sun is to vision. Too much light blurs all future vision. It is the fast trains which wear out railroad and stock. All excesses must be paid for at a heavy discount. Make no such drafts. Probably all organs work only under and by means of pressure, brain included, which is effected by the will setting the brain at work and filling the skull with blood and brain so that, like an air ball, the greater its internal pressure, the more completely it rebounds. Yet too *much* pressure congests, strains, and paralyzes.

18. BE PATIENT, PLEASANT, CHEERFUL, HAPPY.

"FRET NOT" thyself for anything or anybody. Obviate all the ills you can, and then patiently *endure* what you cannot cure. Nothing promotes health equally with cheerfulness and serenity of mind; yet nothing wears, corrodes, paralyzes, and shortens life and all its functions equally with anger, hatred, envy, malice, grudges, and vindictiveness. Those who really deserve to be hated are not worth hating, and do not merit the life-ammunition fired in hating them. Leave Nature to punish those who wrong you; assured that in her own time she will do it up brown. Perhaps *you* are the one to blame. All wrong doing punishes itself.²² At least, don't hurt *yourself* by indulging any bad, moody, sad, sorrowful, hating, or other like feelings.

IF RELIGIOUS FAITH and resignation will enable you to smother wrath, or dispel the blues, or bear life's ills (punishments²¹), cultivate them. As a medicine, they are as much better than nothing as calomel is worse,⁷¹ which is considerable, and *not* hard to take. Genuine piety, not long-faced, moody sanctimonious, is an excellent

tonic and nervine, and the best of all the pathies. None need ever fear an over-dose or relapses.

19. MAKE EVERY DAY A HAPPY HOLIDAY. Those who enjoy "the most are the best fellows."¹⁵ Seize and turn all you touch, and all surroundings, into occasions of enjoyment. Lay good, bad, and indifferent under contribution, and tax everthing, to promote your happiness. That good old-fashioned idea of *comfort* is the great thing. Make yourself just as *comfortable* in mind and body as possible. Let "Sufficient unto the day is the evil thereof" be one motto, and "Hope on, hope ever, for the best," another. This gives you a double enjoyment in everything: once in expecting it, the other in its fruition.

20. KEEP COMFORTABLY WARM somehow. Cold extremities and skin do no fatal damage as long as sufficient vital heat remains at the centre to warm the blood; but when the *whole* of the blood becomes chilled, it congeals, and in passing through the liver, which thus becomes congested, dams up, and of course inflames it, and causes peritonitis; and if the inflammation proceeds to suppuration, usually proves fatal, because this suppurated matter has no escape. I once wrote with might and main, in a room without fire, north of Boston, till the middle of October, and felt no special evil effects till seized with a terrible cramp and congestion in the liver, which nearly proved fatal. Keep warm somehow. Cold hands, feet, and skin generally accompany a sluggish liver.

21. NEVER CARRY PINS in the mouth, nor eat with silver-plated spoons and knives, with their plating partly worn off; because the acid of the mouth acting on their brass, creates verdigris, which is a rank poison. Hence carrying pins in the mouth often causes a prickling in the tongue and mouth. For a kindred reason, never use printed paper at evacuations, lest its poisonous ink lodge in the rectum. Keep the head cool, feet warm, and *bowels* open.

22. TAKE NICE CARE OF TEETH AND MOUTH. Teeth are as precious as their office is important.⁹⁶ None can at all afford to lose any of them by their neglect. Tartar gathering at their roots often loosens them from the gums, and also corrodes their enamel, when they decay. Keeping them and the mouth clean and sweet, by washing them in water after each meal, or on retiring, will do much to promote digestion, and thereby life itself. A soft tooth-brush helps.

THE MOUTH is in rapport with the stomach; so that it should be

often cleansed by rinsing in water, and keeps its glands healthy, which greatly promotes digestion.

23. THE BOWELS need the best care you can possibly give them.

HEAD ACHES, ear aches, and a thousand other aches and pains originate in the bowels, or can be obviated through them. When well cared for they will expel most diseases, while their abuse palsies the life force at its centre. Observing directions already given concerning them will be most beneficial.

FOLLOWING THESE RULES, and the other directions and doctrines of this Part, will keep you well, if well, and get you well if sick. None can at all realize their efficiency or beneficial effects till taught them by *experience*. Every reader and practitioner of these doctrines will be immeasurably blessed in and by following every *single* one of its directions. If we can save room we shall add to them hereafter.

PART III.

THE SELF-CARING FACULTIES.

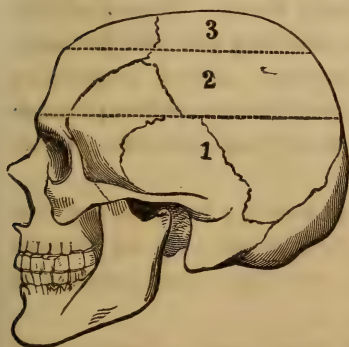
CHAPTER I.

THE ANIMAL PROPENSITIES.*

IV.—ACQUISITION: ITS ANALYSIS, CULTURE, ETC.

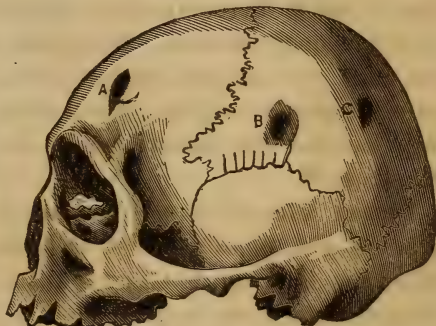
162.—SELF-INTEREST THE PARAMOUNT INSTINCT OF ALL THAT LIVES.

REGIONS OF THE HEAD.



No. 113.

PROPENSITIES LARGE.



No. 114.—ME-CHE-KE-LE-A-TAH.

THESE ORGANS are located in the base of the brain (1, in engraving 113), which round and fill it out around the ears. They are immense in this haggish looking Indian woman, and in the skull of Me-che-ke-le-a-tah, an Indian chief, killed at the battle of Fort Wayne. Its cuts, A and C, were made with a dull tomahawk years before he died, as is shown by their having healed over, and B is a bullet indentation. All are on the left



No. 115.—AN INDIAN WOMAN.

* THE PHRENOLOGICAL FACULTIES will hereafter supply the place of sections.

side, showing that they were received in personal combat from the right hand of his antagonist, which shows that he was a man of courage and blood.

LOVE OF SELF is the all-controlling love of all that lives. Selfishness is the mainspring life-motive, lying at the very foundation of existence itself, without which nothing could live an instant. That very "love of life" already shown to be the starting-point, and great motor wheel of existence,⁷⁶ is one, yet only one, though the strongest, of its aspects.

SELFISHNESS IS SLANDERED by being accused of trespassing upon the rights and interests of others; whereas, its real function is to look out for own self, not to inflict wrong. One can take the best possible care of self without interfering in the least with the rights of others. Indeed, perfect self-interest is best promoted without such trespass, because it creates antagonism. All the roots of each tree are always spreading, and drawing all the nutrition they can, yet none hinder any other from doing the same; nor is there any antagonism among them. Thus should it ever be among mortals. Every one should look out well for number one; yet the best way to do this consists in not trespassing on other people's rights. Even doing good is but a selfish prompting, because the benevolent is but *gratifying* his own innate Kindness.²²⁷

Losing interest in self is more than losing a fortune, and the greatest loss possible, next to losing life itself. By all manner of means tone *up*, but never till the very last relax interest in yourself, and your work in hand.

SOMETHING MUST HAVE CHARGE of everything. Nature puts all her young in charge of their parents till each is old enough to take care of itself, when she transfers it to its *own* keeping; commanding it, in the name of its own paramount instinct, both to let nothing harm it, and to take the nicest possible care of self. This puts all that lives under bonds the most solemn and sacred, to *fulfil* this self-caring command; for what is any instinct but an imperious divine command from its and our Creator to exercise it aright? Thus, what is the feeding, the self-defensive, the sleeping, the breathing, the parental, and every other instinct, but an absolute mandate "from on high," that we fulfil each and all of these innate desires?

THE MEANS of this self-care always accompany this command. Selfishness is the warp of all that lives; and it is furnished with the means of weaving into its checkered woof whatever individual desires may clamor for indulgence.

THE SELFISH PROPENSITIES are the express instruments and means of this inherent self-interest. Their location in the base of the brain orders us to make ample provision, first of all, for our physical wants. All organs are located just where they can subserve their purpose to the best possible advantage; and those organs are located together whose Faculties are required to work together in executing great and necessary ends.⁷ These animal Propensities are located just as close as possible to the organs of the bodily functions, that they may furnish them with the means of supplying all our various animal and physical wants. As heart and lungs could not work together advantageously unless *located* contiguously, so Appetite and Acquisition must be located together in order that the latter may acquire and keep stored up a supply of edibles for the former. This juxtaposition of the physiological and animal organs is inimitably perfect; yet no more so than the location of the upper organs, right over and upon these animal; thus signifying that all these basilar organs are to the moral and intellectual above them, what foundation is to house, that on which all rests, and indispensable to the upper, yet their menial — the physical pedestal for the moral statue.

A GOOD HEARTY ANIMAL NATURE thus becomes of paramount life-importance. Terrestrial existence is impossible without it, and necessarily weak when it is weak. God created it as a constituent part of humanity, and as such to be *exercised*, not ignored; *cultivated*, not exterminated; *prized*, not despised; and rightly *used*, but not abused. Their proper exercise is just as proper as that of any other portion of humanity, the moral and reasoning Faculties not excepted. Only their perversion is wrong. Yet, —

ABNORMAL PHYSIOLOGICAL states usually pervert them. They, more than all else in man, require sanctification and right direction. This is that august and most practically important subject we next approach, in that *analysis* of this animal part of human nature which shall disclose its right, and by converse, wrong exercise — its uses and abuses.

LARGE — Experience great intensity of the animal impulses; enjoy personal existence and pleasures with the keenest relish; and with great excitability, or a fevered state of body; are strongly predisposed to sensual gratifications and passional desires; yet if properly directed, and sanctified by the higher Faculties, have tremendous force of character and energy of mind, and that selfishness which takes good care of number one; are strongly attached to this world and its pleasures; and with activity great, use vigorous exertions to accomplish worldly and personal ends; with the moral organs less than the selfish, and bodily inflammation, are liable to their depraved and sensual manifestation; but with the moral and intellectual large, and a healthy organization, have great force, energy, determination, and that efficiency which accomplishes wonders.

FULL — Have a good share of energy and physical force, yet no more than is necessary to cope with surrounding difficulties; and with large moral and intellectual Faculties, manifest more mental than physical power.

AVERAGE — Have a fair share of animal force, yet hardly enough to grapple with life's troubles and wrongs; with large moral and intellectual Faculties, have more goodness than efficiency, and enjoy quiet more than conflict with men; and fail to manifest what goodness and talents are possessed.

MODERATE — Rather lack efficiency; yield to difficulties; need more fortitude and force; fail to assert and maintain rights; and with large moral organs, are good-hearted, moral, &c., yet border on tameness.

SMALL — Accomplish little; lack courage and force; and with large intellectual organs, are talented, yet utterly fail to manifest that talent; and with large moral organs, are so good as to be almost good for nothing.

TO CULTIVATE — Keep a sharp eye on your own interests; look out well for number one; fend off imposition; harden up; don't be so good; and in general cultivate a burly, driving, self-caring, physical, worldly spirit; especially increase the physical energies by observing the health laws, as this will reincrease these animal desires.

TO RESTRAIN — First and most, obviate all causes of physical inflammation and false excitement; abstain from spirituous liq-

uors, wines, tobacco, mustards, spices, and heavy and rich foods; eat lightly, and of farinaceous rather than of flesh diet, for meat is directly calculated to excite the animal passions; avoid temptation and incentives to anger and sensuality; especially associate only with the good, never with those who are vulgar or vicious; but most of all, cultivate the higher, purer moral Faculties, and aspire to the high and good; also cultivate love of Nature's beauties and works, as the very best means of restraining the animal passions.

V. ACQUISITION; "ACQUISITIVENESS."

163. — ITS DEFINITION, LOCATION, DISCOVERY, AND PHILOSOPHY.

THE PROVIDER AND MERCHANT; economy; frugality; industry; husbandry; thrift; appropriation; the acquiring, claiming, mine-and-thine instinct; desire to get, own, possess, and keep; love of money for its own self, and as an end, not a means; the saving, laying up, and hoarding propensity.

EXCESSIVE AND PERVERTED, it creates a mean, sordid, penurious, close-fisted, grasping, hoarding, and miserly spirit.

IT IS LOCATED above and adjoining Appetite and Construction, and can be found thus: Draw a perpendicular line from the opening of the ear one and a half inches up, and another from its top the same distance forward; the end of the last will be on this organ. In proportion as it is large, it fills and rounds out the sides of the head just back of the lower part of the temples, rendering the head rounding and spherical between the tops of the ears and corners of the eyes, as in James Fisk, Jr., the Erie robber; and creating, when surrounding organs are deficient, a ridge which runs forward nearly horizontally, yet descending slightly. Its deficiency leaves a corresponding hollow, and the head thin and narrow in this region, as in Gosse, who gave away two fortunes, and has been poor ever since.

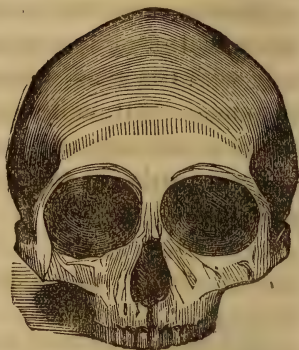
In the head of James Fisk, Jr., this organ and, in fact, the entire animal region, is simply enormous, particularly in its getting part, as is also Causality to plan effective means of obtaining money. It is very large in William Teller, the robber and murderer.

ACQUISITION VERY LARGE.



No. 116.—JAMES FISK, JR.

ACQUISITION LARGE.

No. 117.—WILLIAM TELLER,
THIEF AND MURDERER.

ACQUISITION SMALL.

118.—MR. GOSSE,
GAVE AWAY TWO FORTUNES.

ITS ADAPTATION is to man's need of a *constant* supply, "on call," of the necessities, utilities, comforts, and luxuries of life; in short of property, of which, by common consent, money is the representative. It is based in this principle: These necessities and means of enjoyment are produced at certain times and places, yet wanted for use at others. Thus grains, fruits, edibles, &c., grow mostly in summer and fall, yet are wanted for consumption the year round, which necessitates their saving and storing up

against times of need, as well as of whatever else man requires for future use.

STORAGE, as well as saving, thus becomes a human necessity. This involves *store-houses*, boxes, &c., in which they can be preserved from destruction, theft, weather, &c.; and accordingly this organ is located adjoining Construction, that both may work together in creating houses and places for keeping things till they are wanted, including trunks, locks, doors, &c.

COMMERCE is but the natural evolution of this Faculty. One man has one natural "gift" for supplying one human need better than another.^{7, 33} Thus one can produce grains, another machines, a third fabrics, a fourth books and ideas better than the others, and can be happiest by supplying more of his specialty than he can consume, and exchanging his surplus with the others for theirs.

MERCHANTS or middle-men to effect this exchange thus become indispensable, in order to receive and disburse these surpluses, for which service they must have their pay in the *profits* derived from this traffic. This Faculty thus creates all kinds of business. But for this or a kindred instinct, though man might feast on the stalled ox — yet without this element he would not have stalled it — till its flesh spontaneously decayed, still he would not preserve any of it for future use; and though he might have plucked the golden bounties of summer and autumn to satisfy present hunger, — still, without this Faculty, he would not have planted or sowed, — yet he would never lay up in harvest his winter's supply of edibles, and therefore have inevitably starved.

STORES, marts, markets, bazaars, exchanges, and places where those who have, and who need, these surpluses can meet to effect their mutual exchanges, thus become necessary.

MONEY is another great branch of this economic tree. For all buyers and sellers to take and carry along with them all they wish to buy and sell would obviously be very inconvenient. This necessitates some commodity which all parties shall regard and acknowledge as a "legal tender" for their purchases and sales, and of course something which shall represent them all. It must be easily carried and counted, and have some standard value. Money effects these results, and thus becomes "a very handy article" to have at command, and sometimes, withal, very necessary.

WHATEVER sellers, buyers, and traders, by common consent, recognize as money, thereby becomes such. Gold and silver are thus recognized over most of the civilized world, chiefly because they are prime articles of human consumption. Yet the Chinese put a very much higher price upon the dollar, or give and require much more for an ounce of either, than their Western neighbors; yet international commerce must eventually bring all to one common standard of valuation, that is, equalize their worth.

BANKS and brokers, or depositories for those who have and who want money, thus become public requisitions and benefactions. Interest for the use of money is thus due from borrower to lender. Nor should law say how much or little, any more than what men shall give and take for a bushel of wheat, or yard of calico; but let borrowers and sellers say how much they are mutually willing to give and take for its use.

TRANSPORTATION is another limb of this great trunk of Acquisition. Wheat, butter, and other commodities raised in the country are often wanted for use in cities and foreign countries, while "Havana oranges" taste good wherever they can be offered good. Ships, canals, railroads, &c., now become necessary, in order to bring and carry all kinds of commodities and property, except real estate, from and to all parts of the earth, and the islands of the sea, and are really a great human institution, by filling a natural want. We little realize how much we owe to shipping and "the carrying trade," and to "commerce" generally.

RAILROADS supply this want in a more domestic form, and, though of recent origin, are great public conveniences. All more than double the nominal value of the lands along their lines, and make them worth at least ten times more, intrinsically, than they otherwise would have been. Yet they should be shorn of their monopolizing and electioneering power, and especially of bribery, by making it annul their charters. They should also be allowed exclusive rights only for a limited time, as in copyrights, patents, &c., after which the people should be allowed to construct rival roads if they choose. Thus "Camden and Amboy" has bought and sold New Jersey a hundred times, purchased by bribery new leases and larger powers, and then fleeced the people right and left unmercifully for half a century. Certain conditions were appended to their original charter to guard the people, the *spirit*

of all of which it has habitually violated from the first. Its original exclusive rights expired in twenty years, and if it had been held to their fulfilment, competition would for twenty years past have carried passengers and freight for one fourth it has impudently extorted; besides treating its passengers politely instead of imperiously.

MASSACHUSETTS gave "The Boston and Lowell" a charter, one condition of which was to so reduce its fare that stockholders should receive only ten per cent. — then a great interest; but it has notoriously violated this cardinal condition, and robs and laughs at the state, while it annually quadruples its chartered profits, and bribes all who attempt to call it to account. Legislatures, whose railroad or any other of its creatures thus fleece their people, should "bring them to time."

CONGRESS furnished the credit, and most of the money to build the Pacific Railroad, on condition that it carry United States freight, and pay its interest; but it does neither, and bribes Congress to keep still while it robs the people. Every Congressman owes it to his oath and his country to make this corporation "toe the mark" of its charter; and thus of all other legislators.

CALIFORNIA is railroad blessed and *ridden*, and might and ought to have all the blessings without any of this profuse bleeding which cripples all her industries. Railroads are good things, but should be chartered with judicious restrictions, and made both to *fulfil* them, and confined to their legitimate business of *carrying*, not corrupting legislators.

TO ALL PUBLIC CORPORATIONS these principles apply equally; for all grow out of this great acquisitive element.

ALL INDIVIDUAL ENTERPRISES which have dollars for their object spring from this Faculty. "Public spirit," so called, is its creature; as is most private. "*Money* is what makes the mare go." Reader, how many of *your* life exertions have this pecuniary inspiration? What would you be or do but for this love of the "Almighty dollar"? If it is "the root of all evil," it is at least equally the root of all good. That child, youth, man who lacks it will never amount to anything like as much as if he had it full. For what do workmen work? Solely for their *pay*, but for which they would be idlers, and all manufacturing would stop short.

MONEY REPRESENTS LABOR. Those dollars in your pocket, in

all pockets, represent just so much *work* done by somebody some time. Other valuables, as lands, products, manufactures, anything of *intrinsic* value, are just as good a basis, and less liable to create those fluctuations in value which cause commercial panics and failures. Long-keeping edibles are better, as are lands and government bonds, anything on which men can *realize* the value of the money pledged on them. "Ample security" is the main thing.

INDUSTRY is the creature of this Faculty. Of its value to the individual and the state we need not speak; nor of the evils of that "devil's-workshop," idleness; for they are apparent without. The unexampled prosperity of our country is due to its allowing *all* to *have* what they earn, which inspires them to earn all they can; and this carries forward all our national industries. Ex-slaves will earn double and treble now that they are inspired by this personal motive, more than when driven to work by the lash, and will soon make "the South" ten times more prosperous than it could ever have been under slavery; for "the blacks" will both earn and spend ten dollars now to one then.

NATURE ECONOMIZES all things, but abhors waste. Nothing is lost throughout all her vast domains. Our world was made to stand untold myriads of ages, and be crowded with life of some sort, for all of whose wants, throughout all time, she must make ample provision. She must not furnish a surplus at one time with scarcity at another, but each year must have its due proportion. All our mountains, and even our entire earth, are composed of materials for sustaining vegetable growth. If they decayed all through at once the soil would be very rich at first, when but few inhabitants needed food, only to be exhausted in after ages, when she became crowded; but this economic law causes sun, water, frosts, &c., to disintegrate only the *surface* of rocks and ground, which protects the balance from these decaying conditions, and thus keeps it in store for all time to come.

ALL OVER MOUNTAINS the surface and crevices of rocks are creating virgin soil, which one kind or another of tree or vegetable appropriates, till its decomposition fits it to nourish some other, or allows rains, floods, winds, &c., to transport it into valleys, to perpetually augment their productiveness. Grasshoppers feed on vegetables, land in streams, feed fish, which feed us, and

we throw out their bones, which decay and enrich soil, or are swept into the sea to feed vegetable or animal life; the same material being transformed over and over again into something which sustains life.

A SHIFTLESS FARMER burns his straw and stalks to get rid of them, thus seemingly wasting their manure; but no; the Divine Economist turns it into that carbonic acid gas, on which vegetables feed, transports it to yonder distant field or forest, which imbibe it from the air, turn it into grass, grain, wood, nuts, leaves, &c., or another farmer's wheat field turns a part of it into wheat; but at least nothing of that foolishly burnt straw is wasted.

LEAVES serve their summer purpose, fall, decay, and manure the earth's surface with a rich fine mould, precisely adapted to start in the spring those fall seeds they covered during the winter. Grasshoppers eat vegetables, fowls them, and man fowls; and the fall chill so stiffens them just before they must die of cold, that fowls find them an easy prey. Grasshoppers were not made for nought.

ONE FEEDER or another stands ever ready to seize and appropriate the carcass of whatever dies to its own life use. A tree dies, and worms of this kind or that hatch from eggs deposited upon it, and bore all through it, turning this very rotting wood to practical account. When we die, worms will consume our flesh, and probably another set theirs, besides their decaying gases escaping into the air, only to be taken up by some form of vegetable life, and this by some animal. The very dung-heap breeds swarms of flies in countless numbers, which issue forth, to bask in the sun, flit gayly in the breeze, and enjoy a fleet, happy existence; creating happiness out of nastiness itself, feeding on that filth which would otherwise be injurious to man, and in turn feeding that flitting swallow whose sight and flight delight man.

THE VERY OFFAL, fæcal, urinal, and cutaneous, ejected from the system because hostile to life, enriches the soil, and furnishes another round of vegetables for feeding man and beast.

MAN AND ANIMALS excrete carbon by the life process,¹¹³ but consume oxygen;⁸² while vegetables imbibe and grow on this carbon, yet exhale oxygen; each living on the other's leavings, and multiplying the other; so that the more animals there are,

the more they promote that very vegetable growth which furnishes them with food. The more of either, the more of the other.

THE AIR NEEDS CLEARING of those gases noxious to life, generated by man and animal,⁸⁹ else, in the course of ages, the whole of it would be vitiated by human and animal effluvia, just as a room now does by being long packed with breathers, when gradual but inevitable suffocation must needs ensue ; whereas, vegetables thus clear it by absorbing the identical elements cast off by animal life. Vegetables, too, but for animal life, would soon absorb so much carbon, and excrete so much oxygen, as to unfit it to sustain any more vegetable growth ; whereas, by this stroke of divine economy, animal offal makes vegetable food, and vegetables make those animals which eat them give back to the vegetable kingdom all the elements taken from it.

BEHOLD, O man, and admire these and ten thousand other like divine frugalities, on a scale commensurate with all time and space, and learn therefrom lessons of economy ; and then look all around for something now unappropriated, yet capable of being turned to practical account. They say that all parts of the slaughtered swine, — entrails, blood, hair, bristles, &c., — are now turned to practical account ; and this principle can be applied equally to thousands of other things man could make useful to himself, but now useless.

TABLE FRAGMENTS are wasted in untold quantities. A dainty guest sends back piece after piece of good meat from some fancied fault, only to have it thrown away ; whereas, none have any moral right to thus squander the necessities of life, even though they do pay for them. Rich people think themselves entitled to waste Nature's bounties, but they have not. Economy is one of the natural laws, and as such should be obeyed by rich and poor. Food is sacred, and should be husbanded. Let the rich gratify their Kindness by giving away what they cannot or do not use. Christ's economic example of gathering up and utilizing the fragments should be followed, at least by His followers. The time is coming when this utterly useless, and even wicked extravagance and waste of to-day will be prevented, probably by forestalling these gigantic fortunes, and this by paying more wages to labor, and leaving less profit to trafficker and capitalist. The man who works really makes the money, and deserves the full avail of his

labors. He should at least be able to make as much money by a hard day's *work* as the merchant by a hard day's business, fair allowance being made for the capital of the merchant, and the skill of the artisan. Working men should be better compensated, but no laborer should hinder any other from taking what wages he pleases. Labor and capital will each finally find their level. Neither can thrive except by the help of the other; then let them become and remain mutual friends, not antagonists.

164. — HISTORY, DESCRIPTION, CULTIVATION, AND RESTRAINT OF ACQUISITION.

GALL discovered Acquisition thus: Assembling errand-boys and common people in his apartments, by familiarizing himself with them he finally led them to "tell on" each other. Some accused others of being adroit thieves, who "owned up," and even boasted of their stealing skill. He put these *chipeurs* by themselves, those who abhorred theft, and would not touch anything stolen by themselves, and also those who were indifferent, and on examining their heads, —

"I WAS astonished to find that the most inveterate *chipeurs* had a long prominence extending from Secrecy almost as far as the external angle of the superciliary ridge; and that this region was *flat* in all those who abhorred theft; while in those indifferent, it was more or less developed, but always less than in the professed thieves. All were children of Nature, left to themselves; and those who detested stealing were often those whose education had been most neglected.

"SOME of the children of the Deaf and Dumb Asylum, where I was physician, showed a remarkable propensity to steal; others none. This was corrected in some in six weeks, while others were incorrigible. One was severely chastised, and put into the House of Correction, but all in vain, and felt so incapable of resisting temptation that he wished to learn the trade of a tailor, because he could then indulge this propensity with impunity.

"A LAD of fifteen, with a small head and low forehead, had this organ very large, and was a thief from infancy, despite perpetual chastisements, and proved so incorrigible that he was imprisoned for life. Victor Amadeus, first King of Sardinia, constantly stole trifles. Saurin, pastor at Geneva, was a natural thief. Another victim of this passion from youth entered the army, that its severe discipline might restrain him, where he came near being hanged, then became a preacher in order to restrain himself, yet kept on stealing scissors, candlesticks, snuffers, cups, tumblers, &c., which he secreted in his cell. Lavater mentions a physician who always stole something from his patient's room, whose wife returned them. A thief stole his confessor's snuff-box while *in articulo mortis*.

"AMONG all nations, and at all times, theft has held the most conspicuous place among offences. Few can conscientiously say, 'I never stole anything.' What variety, and how long the chain of larceny? In war, litigation, administering on estates, business, lotteries, gambling, &c., sponging, cheating, &c., are everywhere perpetrated." — *Gall*.

CASES BY HUNDREDS are mentioned by Gall of this uncontrollable propensity, along with this organ large, and all must know of like cases. Natural thieves are brought by hundreds to my office. One of the commandments is directed against it — "Thou shalt not steal." This mental Faculty perverted, causes them all. Spurzheim called it covetousness, but finally adopted Acquisitive-ness, which we change to Acquisition, as shorter and better.

LOVE OF PROPERTY, desire to own and possess, is its special function. It is located close by Appetite, that it may store up food in seasons of its production, against winter and spring; by the side of Construction, that it may prompt to money-making by manufacturing useful articles; by Secrecy, that it may stow away in some safe place, hidden from sight, as in the squirrel secreting his winter's food; and in the very centre of the animal group, that it may store up the necessities of life first, luxuries afterwards.

WHATEVER GRATIFIES any other Faculty is therefore property. A man's home, paid for, *is* his, and he *feels* that it is. Two robins have built themselves a nest; it is *theirs*, and no naughty boy has any more right to rob or destroy it than to tear down a house, or rob a church, because proprietary "rights" are as "inalienable" as any other, and in beast and bird as man. The nuts stored away by the squirrel become his by prior discovery, collection, and storage, and should not be taken, even by man, unless in case of real stress. You planted that cherry tree, but those robins have a right to feed on its fruit, derived from Nature, which tells them to "help themselves" to what they find. All animals which lay up *own* their stores, that propensity which lays up giving them "inalienable rights" in what they store.

"It prompts man, after having appeased hunger, and protected his person against present atmospheric inclemency, to continue to labor by the mere delight of accumulating, and the wealth of civilized communities is due to those ceaseless industries produced by this Faculty. It prompts the husbandman, artisan, manufacturer, and merchant to diligence in their pursuits, and is one of the sources of the comforts and elegancies of life. Its regular activity distinguishes civilized man from savage. The prodigal, who spends his last shilling, leaves behind no

useful traces of his existence; while the laborious artisan who, inspired thereto by this Faculty, saves half of the products of his labor, thereby contributes to the stock of national capital, to set in motion the industries of unborn generations." — *Combe*.

A MONEY-MAKING KNACK is conferred by this Faculty. Some turn all they touch into gold, others into ashes. Some know just how to work a bargain so as to buy for the least, and sell for the most possible; others have no such gift. Some are shrewd and sharp in whatever concerns business, and natural traders; while others fail in all their pecuniary undertakings. Some are good, others poor, collectors. The former possess, the latter lack, this element. It must be most powerful to save up despite all this intense desire to spend money.

LARGE — Make haste to get rich; pursue money-making plans eagerly; have a natural bargain-driving gift; save for future use what is not needed for present; turn everything to good account; allow nothing to go to waste; buy closely, sell well, and make the most of everything; are industrious, frugal, economical, and prosecute all money-making plans with vigor; desire to get, own, possess, and save up; and always have something laid aside for future use; with moderate Hope and large Caution, are penny wise but pound foolish; hold the sixpence too close to the eye to see the dollar farther off, and give the entire energies to amassing property; with moderate Secretion and large Conscience, are close, yet honest; will have dues, yet want no more, and never employ deception; but, with large Secretion and but average Conscience, make money any how; palm off inferior articles for good ones, or at least over-praise those on sale, but run down in buying; and with large Parental Love and perceptives added, can make a finished horse-jockey; with moderate Dignity, are small and close in deal, and stick for the half cent; with large Hope and only full Caution, embark too deeply in business, and are liable to fail; with large Friendship and Kindness, will *do* for friends more than give to them, and had rather *circulate* the subscription-paper than sign it; with large Hope and Secretion, and only average Caution, buy more than can be paid for, pay more in promises than money, should adopt a cash business, and check the manifestations of this Faculty by being less penurious and industrious, and more liberal; with large social organs, industri-

ously acquire property for domestic purposes, yet are saving in the family; with moderate Secretion, and activity greater than power, are so liable to overdo, and take on too much work in order to save, as often to incur sickness, and thus lose more than gain; with large Ambition and moderate Secretion, boast of wealth, but with large Secretion, keep pecuniary affairs secret; with large Construction, incline to make money by engaging in some mechanical branch of business; with large Caution, are provident; with large Ideality, keep things very nice, and are tormented by whatever mars beauty; with large intellectual organs, love to accumulate books, and whatever facilitates intellectual progress; with large Devotion and Dignity, set great store by antique and rare coins, and specimens, &c.

FULL — Take good care of possessions, and use vigorous exertions to enhance them; value property for itself and its uses; are industrious, yet not grasping; and saving, without being close; with large Kindness, are too ready to help friends; with large Hope added, too liable to indorse; and with an active temperament, too industrious to come to want, yet too generous ever to be rich.

AVERAGE — Love property; yet the other Faculties spend quite as fast as this Faculty accumulates; with Caution large, love property for itself, and in order to be safe against future want; with large Ambition, desire it to keep up appearances; with large Conscience, to pay debts; with large intellectual organs, will pay freely for intellectual attainments; yet the kind of property and objects sought in its acquisition depend upon other and larger Faculties.

MODERATE — Value and make property more for its uses than itself; seek it as a means rather than an end; with Caution large, may evince economy from fear of coming to want, or with other large organs, to secure other ends, yet care little for property on its own account; are rather wasteful; neither excel in bargaining, nor like it; have no great natural pecuniary tact, or money-making capability, and are in danger of living quite up to income; with Beauty large, must have nice things, no matter how costly, yet do not take first-rate care of them; disregard small expenses; purchase to consume as soon as to keep; prefer to enjoy earnings now to laying them up; with large domestic organ, spend freely

for family; with strong Ambition and moderate Caution, are extravagant, and contract debts to make a display; with Hope large, run deeply in debt, and spend money before it is earned; with Kindness and Friendship large, indorse too freely for friends, and must swear off from giving and indorsing.

SMALL — Hold money loosely; spend it often without getting its value; care little how it goes; with Hope large, enjoy it to-day without saving for to-morrow, — spend while going instead of "laying up for a rainy day;" and with large Ambition and Beauty added, and only average Causality, are prodigal, and spend money to poor advantage; contract debts without providing for their payment, &c.

THE BACK PART of Acquisition gets, speculates, launches out, and seeks to amass, yet pays little attention to smaller sums, and invests freely; while its fore part saves up, keeps, accumulates, and amasses. We will call the former Acquisition, the latter Frugality. One with the former part large, and latter moderate, will invest largely to-day in hopes of getting back with additions to-morrow, and look away ahead after great piles of money, yet leave the smaller sums of to-day unnoticed; while one with the getting part moderate and saving large, saves at the spigot; looks after dribbles; and prefers bonds and mortgages, even at low interest, to large prospects with poor security. In Westerners and Southerners getting is large, but saving small; in Easterners, saving predominates, and Americans generally are ravenous to get, yet wasteful in use. As a nation we need less wild rushing rage to acquire, with much more economy and frugality. Waste is wicked, even with abundance. God saves up everything, so that literally nothing is lost,¹⁶³ and man ought to follow His august example. It would seem as if all our wits were sharpened up to pick every dollar possible out of every accessible pocket, and then contrive all possible ways to get rid of it somehow.

ALL ARE PUT UNDER BONDS, by the very existence of this Faculty, to lay by enough for all personal necessities, in all future contingencies. None have any moral right to squander even their own hard earnings until they have first made themselves and theirs safe against want. The very office of this Faculty is to keep something in store on which to draw when necessity requires.

A dollar in real *need* is a dollar indeed. This Faculty was created to be *exercised*. Economy is as much a virtue as Kindness. Even children should be early taught to "salt down" something for future use. Young man, what will be the practical difference at fifty of your laying by only a dollar per week, or spending as you go? The amount accumulated, interest included, would be enormous. Use your Computation to decipher how much. Yet this vast sum is but a fraction. After you save up two years you will see some corner lot, some piece of fast property, some business opening, where this hundred and five dollars will give you possession or an interest. That property or business rises; gives you capital and credit to work with; renders you respected and courted; and achieves many other life advantages unattainable without means, and doubles itself many times over in clear profits; besides giving you a place to "invest" subsequent earnings, a nest-egg to draw other layers to your nest, and something to "fall back on" besides.

A YOUNG MAN in Chicago, fast but smart, who earned a hundred dollars per month, yet spent it all on one fast pleasure and another, called on me professionally, and received, after his examination proper, a little fatherly advice to quit fast horses, girls, &c., and *salt down* half or more of his earnings, till he could buy some fast property, and save what he now squandered. He took that advice, saved three months' earnings, except board; bought a piece of property for fifteen hundred dollars; paid down enough to secure it; paid every surplus dollar on it; saw it rise very fast on his hands; bought adjoining property; and was really rich in five years, till the fire crippled him somewhat, but did *not* burn up his *ground*. There is nothing like *deeds*. Landed property and real estate have risen very fast throughout our whole country within twenty years, and will rise much higher and faster hereafter than heretofore.

THOSE WITH GETTING large and keeping small should never engage in traffic, because they will buy, buy, buy, in hopes of realizing, yet keep spending by dribblés, and fail to collect, and hence be short when pay-day comes; *unless* they offset this natural tendency by intellect in resolving to buy sparingly, spend frugally, and keep well collected up. *Collection* is the great art of business.

CASH DOWN, or at least short credit, is the true way to do business. Those who trade where long credits are given must pay for the bad debts of poor customers. You had better trade at the *cash* store, for it does not charge extra to make up losses. And in general, *earn* your money before you spend it. "Time" is bad for both debtor and creditor. Better "do without" till you can pay *down*.

BUYING REAL ESTATE, however, makes this important difference, that it is its own security to the creditor; and if well bought, will bring the owner all he gave, even at a forced sale. And to buy and mortgage it, and keep buying and mortgaging about as fast as you can make sure of paying, has this double advantage of a secure place to invest what you earn, and its rise on your hands. Such debts differ materially from *store* debts, because they have something tangible to *show* for them; while the avails of store debts are consumed.

SOME SAFE DEPOSITORY for accumulating savings becomes a great public benefaction, almost a necessary commodity. Savings banks claim to supply this want, and when well conducted, are excellent institutions; yet much depends on the *personal* honesty and capacity of their officers. They should be patronized till we have something better, by being more absolutely secure. Such vast sums, dependent mainly on the personal integrity of *all* their officers and clerks, at least severely test that of all, and endanger depositors.

INSURANCE offices claim and promise to subserve this identical want, by insuring life, with the promise of returning it at a specified period, but they greatly augment the same objection just urged against savings banks. The recent collapse of several should warn the insured; but one *fact*, which all can see and decipher, warns still further. They spend untold sums in *running* their concerns. They support an army of officers and agents, all well paid; rent the best offices; build the very finest buildings in all the central cities; spend largely for advertising; pay heavy commissions; and often three to five thousand dollars per year for President and Actuary; in short, lay out large sums for current expenses. Who *pays* all these vast amounts? Those insured *pay* that much *more* than they will ever get back, because it has passed *out* of the hands of the company, and is gone, and lost, as con-

cerns the ones who paid it. They must *get back* that amount less than they gave, its interest excepted. Those who choose to stand that loss are quite welcome to, and trust to the individual faith of its custodians *till and after they die* if they like; besides running the risk of losing all they *have* paid by being a little behind time in some one payment; but I wish I had less insurance more sure. These glib-tongued agents can well afford to coax you to insure, for *they* are "insured" their commission out of what you pay, and the temptation is very strong to insure many who are not sound. The fact is, Americans are half mad on this insurance "policy." Taken in the most favorable light, the insured *pay* all these enormous expenses above their receipts.

GOVERNMENT should furnish such a national savings bank on some such basis as this: A. has an infant son, for whose start in life, or college education, or something else, he wishes to make some sure provision, and proposes to set apart one thousand dollars for that purpose; B. wishes to make his wife sure of a competence in case of his death; C. desires to "salt down" a given sum out of the earnings of his mature years for his old age; D. and E., married, wish to make a living *sure* for old age and against vicissitudes of business; and untold thousands of others would gladly make *sure* of a given sum to be paid back at such times as they may designate. None of them desire to use their interest now, but all wish principal and interest to accumulate till the time specified.

NONE of them desire their money payable all *at once*, but all want it faster than their interest. The infant needs none till fifteen, on which to go through college — wants it payable semi-annually during six years — from his fourteenth year to his twentieth. B.'s wife requires hers along as she may need to use it, and none of it for ten or twenty years; and so of the others.

GOVERNMENT NOTES, which the buying parties can have filled out as to time and amount to their individual likings, drawing interest, but paying none till a given time, and then so much per quarter, sufficient to use up principal and accrued interest within a specified time, say five years, more or less, as they fill in the bond. Their money accumulates while they sleep; is payable at the Post-Office, where all parties know each other personally, yet transferable and indorsible over to others; recorded at the Post-Office, and renewable by duplicate if one is lost; and paid by in-

stalments indorsed on the back, so that paying the bond kills it; whereas, in these days paid bonds are not always *cancelled*, but are paid over again.

SOME SUCH PLAN, improved in detail, can be made to absorb hundreds of millions of government bonds, on long time, at low rates of interest, and be a great blessing to the people, and an eyesore to "bulls and bears."

THE CULTIVATION of Acquisition, when it is deficient, is as important as this Faculty is valuable. In order to its culture, try to estimate the value of money intellectually, and save up as a philosophy; economize time and means; cultivate industry; engage in some mercenary business; determine to get rich, and use the means for so doing, and be what you consider even small in expenditures; lay by a given sum at stated times, resolving not to use it except in extreme want, and when enough is laid by, make a first payment on real estate or to begin business; thus compelling yourself both to save the dribblets, and earn what you can in order to save yourself, and do by intellect what you are not disposed to do by intuition.

CULTIVATING IT IN CHILDREN is immeasurably better than leaving them rich. A youth is richer without a cent, but with industrious and economical habits, than with thousands in pocket but without economy. Indeed, they will soon become poor, no matter how rich you leave them, in case they lack it, but well off with it full, though left poor. Get them a savings bank, and encourage them to save up in it the small sums now spent on candies, &c.

INHERITED wealth is of little value. In order that money may do one much good he must *earn* it for himself; because this alone can teach him its worth, or how to spend it. Do not curse your children by prospects of inherited wealth; but make them earn and pay their *own* way. Nothing takes the starch of effort right out of a youth equally with prospective wealth. *Personality* appertains to money-making as much as to breathing. Give children a good chance to *earn*, and then let them have the entire *disposal* of their earnings. They should on no account be required to work for parents till twenty-one to *pay* for their "bringing up," for parents have got their pay already.¹⁷⁶

ITS RESTRAINT sometimes becomes necessary. Phrenology condemns both the spendthrift and the miser. As Nature never

saves for future use what she really needs to-day, so we should never hoard beyond a full competence for ourselves and dependents. Overgrown fortunes curse their owners by breaking the law of this Faculty. Though we should never eat what we need to plant, nor consume to-day the capital stock requisite for giving us future means, yet curtailing to-day's necessities in order to amass a fortune is wrong. Since we can enjoy only in the present,¹⁷ we should not scant to-day's needs just to hoard.

BUYING THE MOST ENJOYMENT possible, with every dollar used, is after all the great monetary knack and art. Think before every purchase, whether this money spent this way or that will yield the most lasting pleasure, and spend accordingly.

TO RESTRAIN — Think less of dollars; study means for enjoying your property; often quit business for recreation; attend more relatively to other life ends, less to mere money-getting; that is, cultivate the other Faculties, and be more generous.

V. SECRETION, OR, "SECRETIVENESS."

165. — ITS DEFINITION, DISCOVERY, AND RATIONALE.

THE CONCEALER — Self-Restraint; reserve; policy; discretion; intrigue; tact; cunning; management; evasion; double-dealing; art; secrecy. Its perversions are lying, deception, trickery, falsehood, &c.

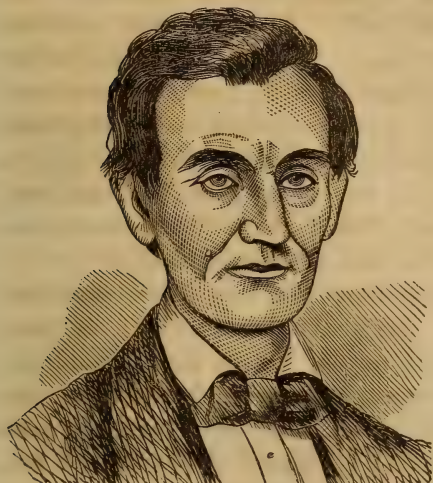
SECRETION, ACQUISITION, and all the selfish organs, are moderate in the head, as they were in the character of "Honest Old Abe." Whatever he said and did, he said and did openly and aboveboard. For a lawyer, he was one of the most candid, and unselfish of men, notwithstanding his profession. His Temperament, too, is that long, prominent, and spare, which indicates hard work and great power of endurance.

IN Gotfried these organs are enormous, along with Amativeness; and she poisoned her father, mother, all her children, and several husbands, that she might indulge her illicit amours.

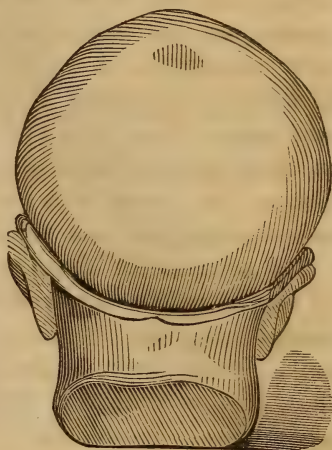
COVERING UP is one of the ordinances of Nature. Most of her operations are performed in secret. Growth takes place mostly under cover. Many species of animals would soon be exterminated unless they kept themselves well hid, some in the

CUNNING AND ACQUISITION MODERATE.

CUNNING VERY LARGE.



No. 119.—PRESIDENT LINCOLN.



No. 120.—GOTFRIED, THE POISONER.

ground, others under vegetables and leaves, and still others upon trees, in water, &c. Cunning alone protects many kinds.

MAN, too, requires to practise both self-control and policy. To *express* all our thoughts and feelings spontaneously and instantly, would be impolitic to ourselves and unjust to others; because many of them are hasty, and all need pruning and considering well before they are fit to be expressed; while many of them are utterly unfit, and had much better die before they are born by their expression.



Nos. 121 AND 122.—CUNNING VS. CANDOR.

SECRECY, in short, pervades all Nature, of which it constitutes a distinct department; ramifies itself throughout all forms of life; is a necessary part of life itself; must needs and does have its counterpart in man, who could not exist without it; and therefore, has its primal Faculty in the human and animal mind, and even in vegetables, and of course its cerebral organ.

TRUTHFULNESS, however, is an ordinance of Nature. She always tells and exacts the whole truth. All deceptions, and even cloaks, tell that they exist, and where. Cunning persons betray their cunning in their very attempt to hide, just as hunters tell that they are hunting, by their stealthy manner and crafty walk and looks. None can ever practise artifice without telling of it in their natural language, or the very way they look and act. Nature can conceal with propriety, but if she really deceived, she would violate her own unalterable law of eternal *truth*.

ITS LOCATION is about an inch above the tips of the ears, and of course behind Acquisition, and above Destruction. It runs horizontally, but extends a little farther before than behind the ears. When large, it oftener *rounds out* the head above the ears than creates a distinct ridge or swell, like most other organs when large. Its deficiency leaves a horizontal depression at this point. It is easily observed, thus: —

PLACE YOUR THIRD FINGER parallel with and touching the tip of the ear, your second touching your third, and first, second, all pressed snugly against the head. Your third rests on Destruction, which, when full, with Secrecy moderate, forms a horizontal ridge under this finger; while your second runs along on Secretion. In proportion as it is large, it rounds and fills out the head there. Whenever you can perceive no *hollow* under this second finger, Secrecy is well developed. Its deficiency leaves a horizontal depression, a little wider than your finger, some two inches long, extending farther before than behind the ears.

“THIS ORGAN is situated above, and a little in front of Destruction. It forms on the head a prominence swelling out and extending longitudinally forward, and terminating above an inch from the upper superciliary arch. It is easily contradistinguished from Destruction by being farther *up* and *forward*, and is long instead of spherical. When both are large, the whole side of the head forms one full prominence.

“THOSE who have heads very prominent at their sides but flat on top, are false, artful, venal, perfidious, vacillating, and hypocritical. They will overwhelm you with politeness and flattery, and make you feel at home, that they may the more effectually plot your ruin without awakening suspicion.

“A FAMILY with whom Spurzheim and myself once dined, had this organism, yet displayed the utmost frankness; but our nine years' acquaintance confirmed our phrenological opinion of them. The same thing occurred relative to a young lady, who seemed innocence personified; and also in a certain seemingly very friendly professor, who worked secretly against us.

"WRITERS AND POETS in whom it is large will prefer romance, ingeniously combine fact and fiction, and bring their plots to unexpected denouements.

"IN WAR, it inspires the general with stratagems by which he surprises his enemy, conceals his forces, masks his designs, and makes false marches and feigned attacks. It always supposes a plan, and plays a peculiar part in society. It suspects the most innocent words and actions; puts a forced construction upon everything; and makes others responsible for what they never intended. Artifice and perjury characterize some nations, truthfulness others." — *Gall*.

"CUNNING ANIMALS conceal with adroitness. Cats pretend to be asleep, but steal the meat the moment the cook's back is turned; and watch for mice without the slightest bodily motion; while the dog hides his bone. Cunning persons often tell lies to find out the truth; exaggerate the good to learn the evil; magnify virtues to learn faults; and in a thousand ways betray a concealing instinct. The primitive Faculty which conceals ideas, things, intentions, and themselves, is always the same. I call it Secretiveness." — *Spurzheim*.

GALL DISCOVERED this Faculty and organ in an apparently candid, treacherous friend, and tricky school-mate, both of whom had the natural language of the cat; and in a well-read and talented physician, so cunning in his cheateries that the government publicly warned people to beware of his cunningly devised impostures; and who told Gall that he knew no pleasure equal to that of deceiving people, especially those who distrusted him most. In all of them he found this organ large.

THE WEAK often require to protect themselves by strategy. It constitutes an essential element in a prudent character. "A fool uttereth all his mind; but a wise man keepeth it in till afterwards." It both restrains the other Faculties, and evades or misleads a prying, eavesdropping curiosity. Scott says Napoleon could discharge all expression from his face except a vague indefinite smile, and the fixed eye and rigid features of a marble bust. It discovers other people's secrets, but conceals its own; while those in whom it is deficient are too open-hearted, perpetually exposing their intentions, wholly unsuspecting, and ever liable to impositions. Those who are friends to your face but enemies behind your backs, have this organ large, with moderate Friendship. It is uniformly immense in all North American Indian heads and skulls I ever examined, and always prodigious in their characters.

ITS CENTRAL location in the animal group signifies that its

express office is to restrain the other animal propensities, and their action is about all we ever need to repress. Thus we rarely need to hide our Kindness, or Devotion, or Taste, or Knowledge, or Thoughts, yet should sometimes conceal our plans and aims. Shrewdness is its production, and often very useful and proper.

TRICKS IN TRADE, the first lesson taught to novices, are its offspring, as are all the artifices and deceptions of fashionable life, which is one round of mere false appearances. "O, how *do* you do, Miss McFlimsy? How right glad I am to see you! Why haven't you called before? Now, don't go yet!" — but talk very differently behind their backs from before their faces. How often is truth thus sacrificed at this make-believe shrine, and the moral tone of listening children and youth thus lowered! Invite to visit you only those you desire to see. Be truthful, both because truth is policy, and more valuable than rubies. Maintain it inviolate.

POLICY is allowable, but deception is damnable. How mean discovered hypocrites, and those who fear discovery, feel. The lion's skin cannot hide ass's ears. Concealed truth "will out." Pretend to be only what you really are, yet you need not disclose all. Sincerity carries conviction.

166. — DESCRIPTION, COMBINATIONS, CULTURE, AND RESTRAINT OF SECRECY.

LARGE — Are non-committal and cunning in the extreme; with large moral organs, and only average or full propensities, have a good moral basis, yet instinctively employ many stratagems calculated to cover up motives; and should cultivate openness and sincerity; throw a veil over Countenance, Expression, and Conduct; appear to aim at one thing, while accomplishing another; love to surprise others; are enigmatical, mysterious, guarded, politic, shrewd, managing, employ humbug, and are hard to be found out; with Caution large, take extra pains to escape detection; with Conscience also large, will not tell a lie, yet will not always tell the whole truth; evade direct questions, and are equivocal, and though honest in purpose, yet resort to many cunning devices; with large intellectual organs and Caution, express ideas so guardedly as to lack distinctness and directness, and hence are often misunderstood; with large Ambition, take

many ways to secure notoriety, and hoist some false colors; with large Acquisition, employ too much cunning in pecuniary transactions, and unless checked by still larger Conscience, are not always strictly truthful or honest; with large social organs, form few friendships, and those only after years of acquaintance, nor evince half the attachment felt; are distant in society, and communicate even with friends only by piecemeal; divulge very few plans or business matters to acquaintances, or even friends; lack communicativeness, and have little or no fresh-hearted expression of feeling, but leave an impression of uncertainty as to character and intention; with only average Conscience, are deceptive, tricky, foxy, double-dealing, and unworthy of trust; with large Acquisitiveness added, will both cheat and lie; with large Caution, are unfathomable even by acknowledged friends, &c.

FULL—Evince much self-government, yet, if the Temperament is active, when the feelings do break forth, manifest them with unusual intensity; with large Acquisition and Caution, communicate but little respecting pecuniary affairs; with large Ambition, take the popular side of subjects, and sail only with the current of public opinion; with Conscience large, are upright in motive, and tell the truth, but not always the whole truth; and though never hoist false colors, yet do not always show true ones.

AVERAGE—Maintain a fair share of self-government, except when under excitement, and then let the whole mind out fully; with large Force and an active Temperament, though generally able to control resentment, yet, when once provoked, show the full extent of anger; with large Caution, see that there is no danger before allowing the feelings to burst forth; but with an excitable Temperament, and especially a deranged stomach, show a general want of policy and self-government, because the feelings are too strong to be kept in check; but if this Faculty is manifested in connection with stronger Faculties, it evinces considerable power, yet is wanting when placed in opposition to them.

MODERATE—Express feelings with considerable fulness; pursue an open, direct course; are sincere and true; employ but little policy, and generally give full vent to thoughts and feelings; with Caution large, evince prudence in deeds, but imprudence in words; express opinions unguardedly, yet are safe and circum-

spect in conduct; with large Acquisition and Conscience, are honest, and think others equally so, and too easily victimized by confidence men; prefer the one-price system in dealing, and cannot bear to banter; with large Friendship, are sincere and open-hearted to friends, and communicate with perfect freedom; with large Conscience and Force added, are truthful, and speak the whole mind too bluntly; with a good moral organization, manifest the higher, finer feelings, without restraint or reserve, so as to be the more attractive; are full of goodness, and show it all without any intervening veil; manifest in looks and actions what is passing within; express all mental operations with fulness, freedom, and force; choose direct and unequivocal modes of expression; disclose faults as freely as virtues, and leave none at a loss as to the real character; but with the harsher elements predominant, appear more hating and hateful than they really are, because all is blown right out.

SMALL — Are perfectly transparent; seem to be just what, and all they really are; disdain concealment in all forms; are no hypocrites, but positive and unequivocal in all said and done; carry the soul in the hands and face, and make way directly to the feelings of others, because expressing them so unequivocally; are too spontaneous; with large Caution, are guarded in action, but unguarded in expression; free the mind regardless of consequences, yet show much prudence in other respects; with Conscience large, love the truth wherever it exists, and open the mind freely to evidence and conviction; are open and above-board in everything, and allow all the mental operations to come right out, unveiled and unrestrained, so that their full force is seen and felt; and conceal nothing, but disclose everything.

To **CULTIVATE** — Supply by intellect that guardedness and policy lacked by instinct; try to "lie low, and keep dark," and suppress your natural outgushings of feeling and intellect; cultivate self-control by subjecting all you say and do to judgment, instead of allowing momentary impulses to rule conduct; do not tell all you know or intend to do, and occasionally pursue a roundabout course; be guarded, politic, and wary in everything; do not make acquaintances, or confide in people as much as is natural, but treat everybody as if they needed watching; be less blunt and open; tell only a part, and that guardedly; lawyer-

like, let others do most of the talking, and commit themselves, but keep yourself to yourself; observe and take lessons from those who have it large, and "go and do likewise;" leave others to find out as they best can; tell the TRUTH as far as you say anything, but not all; employ policy, not in deceiving others, but simply in protecting yourself—in withholding, not misstating; and practise "the truth is not to be spoken at all times."

TO CULTIVATE IN CHILDREN, show them how much more they could have gained by governing their feelings, and waiting the most favorable opportunity for saying and doing things; let them play "hide and seek," and those other amusements which innocently gratify this Faculty; in short, employ those various expedients which are perpetually proffered for calling it into exercise; yet let it be scrupulously governed by the moral Faculties.

TO RESTRAIN — Cultivate a direct, straightforward, aboveboard, and open spirit, and pursue a course just the opposite from the one suggested for its cultivation; be less suspicious and more confiding, for being deceived is better than a cold, distant, suspecting distrust of mankind.

NEVER DISTRUST or mistrust children or servants. Deal with them as though you thought them honest. Take them at their word. Never let them know that you think they can lie, till the proof is too positive to be denied, and then rather exhort and encourage them to do better than disgrace them. The reason of this will be seen under Ambition.

It is deficient, while Kindness is large, in Gosse, No. 124, and in Eustache, No. 150, who saved his master and family from the San Domingo massacre, and was awarded the prize medal of virtue; but enormous in the accompanying Indian Brave, taken with Black Hawk, and remarkable for ferocity. I took a cast of his head, from which this is copied.

VI. — DESTRUCTION, OR "DESTRUCTIVENESS."

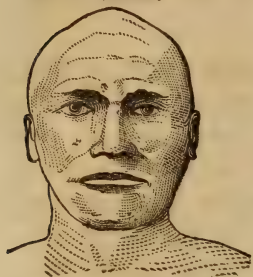
167. — ITS LOCATION, DISCOVERY, PHILOSOPHY, &c.

THE EXTERMINATOR; executiveness; severity; rage; violence; ferocity; sternness; harshness; love of tearing down, destroy-

ing, causing pain, death, war, teasing, &c.; hardihood; endurance of pain; revenge.

DISSOLUTION forms as integral part of Nature as construction. Whatever lives and grows must therefore decay.

DESTRUCTIVENESS VERY
LARGE.

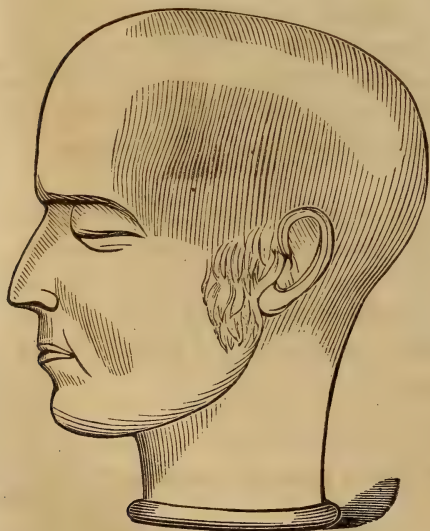


NO. 123.—INDIAN BRAVE,
TAKEN WITH BLACK HAWK.

DEATH is a physical necessity. It inheres in that organic principle which manifests life. All matter is perpetually undergoing changes. To this law our material organism must conform. Why should we wish to be excepted? If we did, all other organic bodies must also remain perpetuated, and in this event, pray what could we eat? for we can feed only on bodies previously alive,⁹⁰ but which must die and be disintegrated before they can possibly nourish us.⁵⁰

DEATH IS A BLESSING. We might infer this from the known goodness of God. Every arrangement of Nature is ordained to promote only enjoyment.¹⁵ Then shall

DESTRUCTIVENESS SMALL AND BENEVOLENCE
LARGE.



NO. 124.—GOSSE.

death alone constitute an exception? All *a priori* reasoning proves that, like all else in Nature, its mission is to bless, not curse, those to whom it comes, and whenever it comes. And bless it actually does, always. Unless we lived under the action of natural laws, we could not enjoy.¹⁹ Their violation causes pain,²¹ which is also instituted and necessary for our own best good.²³ A railroad smash up, a steam scald, a bullet through the heart, or a thousand other accidents to which all are perpetually liable, both render us helpless, and inflict on

us all the misery human nature can endure; or mental surroundings

equally agonize us. Suppose there were no death, yet all the living suffering we could possibly endure forever, would not death then be a boon, equalled only by life itself? Or we escape accidents, but wear out with old age; become helpless; lose all former friends and even children; are in everybody's way; and decrepit; would and should we not then *desire* to die? Like suppositions will crowd upon thinking readers, and demonstrate both the necessity and utility of death, and that it is next to life in practical value, and alone saves it from a termination inexpressibly disastrous and horrid.

DEATH INHERES IN LIFE. The living process is a dying one. Literally life is death, thus: Life is composed of *periods*, growth, maturity, and decline, each of which, like the seasons, merges naturally into its successor. Who would alter, who but sees happiness in, this part of life's programme? Yet it eventuates in death. These various periods of life appertain to all that lives, and each is graduated to all the others. Whatever is long or short in maturing is correspondingly long or short in maturity and decay, a law explained under Time. Life must *needs* have its feeble incipency, for how could anything burst suddenly into full-orbed maturity? ¹⁷⁶ This presupposes a like gradual decline. Our very earth must needs grow old, and die. At least, death is a *fact*, a department of Nature. In the midst of life we are in death. "It is appointed unto all men" and whatever lives "once to die." Death is a *sure* prospective reality.

NATURAL DEATH IS PLEASURABLE always, painful never. Those muscular twitchings which often accompany it need not be, and probably are not, any more painful than like muscular twitchings often experienced when going to sleep, and are doubtless due to the magnetic forces equalizing themselves, in this case taking final leave. Even premature death itself is not painful, but only those violations of the natural laws which hasten it are so; for all death-dealing blows *benumb* instead of agonizing. Come death whenever and to whomever it may, it comes always and only as a friend and benefactor to be *sought*, not an enemy to be shunned. The vitative principle itself lets go its hold on life *voluntarily* whenever it can no longer hold on to it with pleasure. Who has not known those who longed and prayed to die? What does *that* mean? The aged and infirm generally look Death calmly in the

face, and court rather than shrink from him. He is terrible to undergo by those in robust life, but not by those whose life force is exhausted. Those who make death a great religious scarecrow only humbug the living, without doing them any good, because a frightened repentance is worthless. And all death-frights hasten death. *Living* right prepares the way to die right. Scaring children with death scenes and stories is horrible.

DEATH IS A CALM SLEEP. Let the countenances of very many who die attest whether they do not look for all the world precisely as though they had fallen into a sweet, happy, heavenly sleep. Some dead faces have a ghastly, horrible aspect, doubtless because the medicines administered or some other cause hastened their death too abruptly to give death its legitimate effects. Yet *all* countenances grow far less ghastly and more benignant and happy looking a few hours after than at the dying moment. What does this mean? That it takes some hours to fully die, and this spirit principle in which life inheres¹⁸ *enjoys* this dying process, and writes its delights upon the countenances hours after death; else why look more serene and heavenly after than at death? A kindred point will come up again under Spirituality, whilst "mourning for the dead" is well treated in Sexual Science.⁴⁶⁰

DISSOLUTION follows death, as invariably as daylight sunrise. Life embodies and organizes particles of matter into organs suitable to its wants,⁵⁰ and keeps them together till it is done with them, when, by a chemical law inherent in matter, they resolve themselves back into their inherent isolated state till, and in order to be, again embodied in some other organic form. But for this prior decomposition how could the same matter live but once, in which case there could be but little life; whereas, now it can be used over and over again illimitably, each new form capable of helping to introduce a new spirit upon the plane of eternal existence! O, that Infinite Wisdom which devised all this! Dissolution is at least a *fact* which appertains to man, and must therefore have its mental Faculty, adapted and adapting man to this dying and dissolving ordinance of Nature. Destructiveness is that Faculty, and carries on this identical adaptation and end. God devised it, applied it to man, created a primal mental Faculty to carry it on, and to destroy other forms of vegetable and animal

life for his own subsistence — how could he himself live if he did not — and Destruction with its organ is that blessed Faculty.

THINGS BY MYRIADS must be exterminated in order to fit our earth for human habitation. Till it is wanted by man, Nature allows trees, shrubs, thorns, wild beasts, and things innumerable, to pre-occupy it, which he must destroy, before he can enjoy her luxuries. He must cut down, cut up, and burn up trees and shrubs, and clear the earth before he can plant it; often blast and remove rocks; and do up a vast amount of rough, hard work, and therefore needs and must have some Faculty which accomplishes and enjoys this rough work. And after he has planted corn, cotton, or cabbages, up spring myriads of weeds, which he must exterminate, or else be exterminated by them. He finds lions, foxes, vermin, &c., standing in the way of his enjoyments, along with a thousand other pests, all of which must be "done for."

ALL AUTHORITY is also based in Destruction. Of what use would any command be unless enforced by an implied threat underlying it, and appended in its non-fulfilment! "Do this, or suffer that," alone secures obedience. All law, human and divine, is based upon it, and by it alone rendered efficacious. What would any and all laws and rules be unless enforced by penalties attached to their violation? and what are punishments but the exercise of Destruction? the infliction of pain? Could man live without laws, both human and natural?²³ Of course not. And equally not without Destruction to render them efficacious by punishments.

PROCURING FOOD, both vegetable and animal, demands its exercise. Both must be *killed* before they can nourish. This requires us to keep killing something perpetually, or stop eating.

A MAD DOG OR MAN threatens our lives. We must kill, or *be* killed. We must sometimes even surrender our own life or else take that of another.

PRESENT PAIN must often be endured and inflicted, as a relief from subsequent. Teeth must often be extracted or plugged, and surgical operations innumerable performed and borne, which require this pain-causing Faculty in the surgeon, and pain-enduring in the patient. Without it none could ever operate, or be operated upon; but with it, we can do both.

WARS are often necessary to progress. Man has no greater blessing than those grand breaking up of hoary evils they effect. How, without war, could the Magna Charta ever have been granted, our independence established, slavery abolished, or the Bourbons, who never forgot nor remembered anything, have been dethroned, or France taught her place?

PAIN EXISTS.²¹ It even constitutes an institution of Nature as much as gravity. It also appertains to man. We are subject to it, and must have some inherent element to put us in relation with it, just as we must have eyes to put us in relation with light. Destruction effects this relation, and enables us to both endure and inflict it. Without it we could have no relation with the painful action of the natural laws. Pain must be endured till all can learn to obey them all. It adapts man to that great part it plays in the divine economies.²¹ It reforms and cures us,²³ yet meanwhile must be borne and resisted, or it would often take our lives. We then need to "grin and bear" it, and by doing so can greatly mitigate it. Destruction enables us to patiently endure those life ills we cannot cure. Thus two young ladies, one having Destruction large, the other small, by drinking hot tea and eating candies, have broken the laws of their teeth till they ache terribly; the latter lets them ache on night and day, suffering genuine agony in preference to the additional temporary pain of their extraction; while full Destruction takes the dentist's chair with resolute energy, virtually saying, "Doctor, pull out this provoking tooth which aches so;" and the moment he begins to hurt braces herself up against it; thereby enduring but a tithe as much suffering as her non-destructive mate. Defying and enduring what we must, abates half the pain; while succumbing doubles it. Reader, incorporating these two practical lessons into your every-day life will double its pleasures, and halve its sufferings.

1. GIVE YOURSELF THE BEST you can afford. I once hired an Irish laborer, just over, but smart, shirtless, and with a ragged coat. His co-laborers laughed at him, to whom he replied, —

"I AM UNABLE yet to get shirt or coat, because just landed; but as fast as I get able I shall give myself the best I can get. If I were only able, I would treat myself to clean linen every morning; for nothing I can do for Patrick Mahoney is too good for him."

READER, you are worthy of just the best treatment you can give

yourself.¹⁶² Infinite Goodness has placed beautiful flowers and luscious fruits all along our life pathway, and comforts and luxuries everywhere within the reach of those who have eyes to discern and energy to pluck and enjoy them, and bids us, by virtue of that self-love which constitutes our strongest instinct,¹⁶² to pluck and enjoy all we can.^{15, 17} But, after having done our very best,

2. SKELETONS occupy every house and heart. A lost child or dear friend, a drunken husband or relative, a broken heart, in wedlock or out, some unfortunate trait of character, some bitter enemy, some Mordecai, more favored than ourselves, jealousy, poverty, or some bodily infirmity, or one or another of the myriads of those ills flesh is heir to, mar all lives, or agonize most. Obviate all you can; think out and execute your best method of escape; but, after you have done all, ENDURE what you cannot cure. Offset by Destruction what you cannot obviate by forethought. Not only never borrow trouble, nor magnify it by succumbing to it, but "pass it by on the other side." Ignore it as you would a disagreeable acquaintance. In short, *make the best of what is*, and let it go at that. "Fret not thyself" for anything or anybody. An old and a young traveller are subjected to the same common hinderance or nuisance. The young makes matters worse by raging and storming at the inevitable; while the old puts up with the bad, and enjoys all he can under the circumstances. Be like the old, always, in everything, like the young in nothing, ever. These two lessons adopted in practice will be worth a thousandfold the price of this book, which alone teaches them.

SEEST THOU, reader, the philosophy, the uses, the adaptation, and the absolute necessity of this destructive element?

FINALLY FACTS, on a scale coeval with human history and commensurate with man, attest a bloodthirsty propensity in the race. Its warlike spirit throughout its history, and utterly uncalled for cruelties; all the homicides and murders wantonly perpetrated from sheer malice prepense; an inherent love of cruelty *per se*; and all suicides and incendiaries, attest this cruel instinct. Desperadoes, who, taking their own lives in their hands, menace all other lives, are a Western institution, and "vigilance committees" in San Francisco, Virginia City, and other places, were right in giving them a dose of their own medicine — death.

"COUNT DE CAROLAIS, even in childhood sports, manifested an instinct of cruelty which might make one shudder; amused himself by torturing animals; treated his servants with a violence absolutely ferocious; mingled cruelty even with his debauches; practised divers barbarities on his courtesans; murdered without interest or resentment; and used to shoot bricklayers to enjoy the barbarous fun of seeing them fall from the tops of houses. Milan lured children into her house, killed, salted, and ate them.⁹¹ A robber often threw his robbed victims into the canal to enjoy seeing them struggle with death.

"IN THE WHOLE HISTORY of ancient and modern nations, what single spot on earth has not been reddened with human gore? Read the histories of the Jews and Romans; follow the Spaniards to Cuba, Mexico, and Peru; open the Inquisition; read of religious wars, Sicilian Vespers, St. Bartholomew's Day, and the French Revolution; and behold everywhere funeral piles, wheels, and instruments of torture by thousands; and military glory superseding all others! Behold Caligula, cutting out innocent tongues, and throwing them into the cages of wild beasts; compelling parents to help execute their own children; giving those doomed their choice between the wheel and rack, and then amusing himself with their agony; wishing that the Romans had but one neck, that he might behead them all at one stroke; feeding wild beasts kept for shows on *living men*, and whose strongest desires were for pestilence, famine, conflagration, and the loss of an army. Look at Nero poisoning Britannicus; murdering his own mother, and the husband of the woman he desired to violate; sacrificing to his fury his own wife Octavia, Burrhus, Seneca, Lucian, Petronius, and his mistress Poppæa; setting fire to the four corners of Rome, and then ascending an elevated tower to enjoy the awful sight at his ease, and wishing he could see the whole world on fire; covering Christians with wax, and burning them by night, that they might serve for lamps; laying plans to murder all the governors of provinces, generals, and all the exiles and Gauls in Rome, poison the senate at a meal, set all Rome on fire a second time, and turn the wild beasts loose to keep the people within. Behold Louis XI., who killed his own father with fear; reigned only by terror; executed four thousand victims, and devised the most excruciating modes of torture; stationed himself behind a lattice to enjoy their agonizing shrieks; bespattered the children of the executed Duke of Nemours with his spitting blood, and then put them into scuttled-shaped dungeons, thus torturing them perpetually by their cramped position; wearing images and relics, and getting absolved from past murders only to commit new ones. Look at Scylla, Tiberius, Domitian, Marcus Caius, Aurelian, Caracalla, Septimius Severus, Henry VIII., Catharine de Medicis, and others. It would take years to enumerate the scenes of horror earth has witnessed. How many murders are daily committed with all the refinements of cruelty, in spite of education, morality, religion, and the laws? Who but must admit in man an innate propensity to kill his own species? What beast is as ferocious? manifesting itself now with imbecility, anon in mania, and then in cold-blooded torture." — *Gall.*

NORTH AMERICAN INDIANS fasten hands, feet, and body tight, on the backs, to keep their victims perfectly still, sometimes by

driving spikes through their hands and limbs, build a slow fire under one side between hip bone and ribs, and dance and yell in fiendish ecstasy over their cries and moans of slow expiring agony; and in them this organ is simply enormous. All human (inhuman?) history, and universal human nature, attests both its existence and fearful cruelties. In short, —

DESTRUCTION both promotes life, and is its auxiliary, as well as one of the most benign arrangements of Nature. Man must, and does, fulfil this destructive end, and therefore must, as he certainly does, have this destroying and pain-causing and enduring propensity. Here is a distinct and a necessary class of functions to be fulfilled, which must therefore have its executive mental Faculty, and of course cerebral organ in Destruction, which together execute this entire range of functions. Both as a divine invention, and as a means of enjoyment, it is unsurpassed.

168. — DISCOVERY, DESCRIPTION, CULTURE, AND RESTRAINT OF DESTRUCTION.

MURDER was the first name given by Gall, its discoverer, to this Faculty, because he discovered it in the skulls of murderers and suicides, naming it from its perversion, instead of normal function.

"THE SKULL of a paricide was once sent me, which I laid aside, thinking it could be of no possible use to me, and shortly after, that of a highway robber who had added many murders to his robberies. I frequently examined both side by side, and noticed every time that, though they differed greatly in other respects, yet that both swelled out prominently right over the external opening of the ear. I could not consider this great development common to two murders merely accidental. On comparing the developments of carnivorous animals with frugiferous, I found carnivorous heads like those of the murderers, and asked myself if there could possibly be any relation between this form of head and a disposition to kill? The idea at first was revolting, yet I knew no law but truth." — *Gall*.

HIS PROOFS of its existence are demonstrative, and all my own observations confirm his. Let one suffice.

IN PITTSBURG, PA., at a crowded lecture, a doctor proposed that I examine publicly a skull he had with him. I begged postponement till the next evening, because I had been riding night and day, and was fatigued with a long lecture besides. He implied that I was afraid of so searching a test. I said "then

send it along up," which he did. I pronounced it the skull of a murder, for money, and detailed his Acquisition, Cunning, Destruction, and Amativeness, with but little moral restraint. His character corresponded precisely with my public description. Like tests in Janeville, in South Boston, in scores of places, attest its existence and correct location.

EXECUTIVENESS, which involves exterminating all obstacles, is its real office, and would constitute its appropriate name; yet this change is hardly worth while, since Destruction expresses it. Dr. Vimont says "all flesh-eating animals, without exception, are largely developed in this cerebral lobe, tigers, cats, foxes, martens, weasels, ermines, &c., for example; as also all carnivorous birds." It is oftener deranged than probably any other, and sometimes moral, pious, and affectionate parents can barely restrain themselves from killing their own dearly-loved families, while others beg to be put into irons to prevent their killing some inoffensive friend.

CURSING AND SWEARING are among its manifestations. Anger, not a petulant, spiteful irritability, but a bitter, hating, hateful, revengeful, injuring spirit is its product, of which cursing is the verbal expression. Those in whom it is large *feel* wrathful and malicious, and therefore swear with unction, and "for a premium;" while those in whom it is moderate make a fool of swearing, for lack of its vindictive *spirit*.

LARGE — Experience the most powerful indignation, amounting, when thoroughly provoked, even to rage and violence; and with large Force, act like a chafed lion, and feel like rushing into the midst of perils and dangers; tear up and destroy whatever is in the way; are rough, harsh, and often morose in manner, and should cultivate pleasantness; with large Force, and Firmness, and moderate Ambition, are exceedingly repulsive, hating and hateful when angry, and much more provoked than occasion requires; with large intellectuals, put forth tremendous mental energy; should offset this Faculty by reason and moral feeling, and cultivate blandness instead of wrath; impart that vim which removes or destroys whatever impedes progress; with Firmness large, have that iron will which endures till the very last, in spite of everything, and will carry points anyhow; with large Force, have a harsh, rough mode to expression and action, and severity if

not fierceness in all encounters ; with large Acquisition and Conscience, will have every cent due, though it cost two to get one, yet want no more, and retain grudges against those who have injured the pocket ; with large Ambition and Force, feel determined hostility towards those who trifle with reputation or impeach character ; with large Dignity, against those who conflict with its interests, or detract from its merits ; with large Friendship, when angry with friends, are angry forever ; with large Kindness and Conscience, employ a harsh mode of showing kindness ; with large comparison and Expression, heap very severe and galling epithets upon enemies ; with large Beauty, polish and refine expression of anger, and put a keen edge upon sarcasms, yet they cut to the very bone, &c. Such should avoid and turn from whatever provokes.

FULL — Evince a fair degree of this Faculty, yet its tone and direction depend upon the larger organs ; with large propensities, manifest much animal force ; with large moral organs, evince moral determination and indignation ; with large intellectual organs, possess intellectual might and energy, and thus of its other combinations ; but with smaller Force, are peaceful until thoroughly roused, but then quite harsh and vindictive ; attack only when sure of victory, yet are then severe ; with smaller Dignity, exercise this Faculty more in behalf of others than of self ; with large Caution, and moderate Force, keep out of danger, broils, &c., till compelled to engage in them, but then become desperate, &c.

AVERAGE — Are like Full, only less so.

MODERATE — Evince but little harshness or severity, and shrink from pain ; with large Kindness, are unable to witness suffering or death, much less to cause them ; possess but little force of mind or executiveness of character to drive through obstacles ; with large moral organs added, are more beloved than feared ; manifest extreme sympathy, amounting sometimes even to weakness, and secure ends more by mild than severe measures ; with moderate Force and Dignity, are irresolute, unable to stand ground, or take care of self ; fly to others for protection ; can do little, and feel like trying to do still less ; fail to realize or put forth strength ; and with large Caution added, see lions where there are none, and make mountains of molehills ; and with

small Hope added, are good for little ; but with large Hope and Firmness, and full Dignity and Force, accomplish considerable, yet in a quiet way, and by perseverance more than courage, and by siege than storm, and with large intellectual and moral Faculties added, are good, though not tame ; exert a good influence, and that always healthful, and are mourned more when dead than prized while living. The combinations under this organ large, reversed, apply to it when moderate.

SMALL — With large moral Faculties, possess too tender a soul to enjoy our world as it is, or to endure hardships or bad treatment ; can neither endure nor cause suffering, anger being so little as to provoke only ridicule, and need hardness and force ; and experience and manifest little of this Faculty.

TO CULTIVATE — Destroy anything and everything in your way ; take the rough-and-fumble of life with a zest, and put your plans straight through all that opposes them. Killing weeds, blasting rocks, felling trees, using edge-tools, tearing up roots, ploughing new ground, cultivating new farms, hunting, exercising indignation when wronged, and against public wrongs, espousing the cause of the oppressed, fighting public evils, such as intemperance and the like, are all calculated to cultivate and strengthen this Faculty. Still, care should be taken to exercise it under the control of the higher Faculties, and then no matter how great that exercise.

TO RESTRAIN — Kill nothing, and offset Destruction by Kindness ; never indulge a rough, harsh spirit, but cultivate instead a mild and forgiving temper ; never brood over injuries, nor indulge revengeful thoughts or desires, nor aggravate yourself by thinking over wrongs ; cultivate good manners ; and when occasion requires you to reprove, do it in a bland, gentle manner rather than roughly ; never tease, even children, or scourge animals, but be kind to both ; for oaths express and admeasure animality ; and also avoid cursing and swearing, sarcasms, and all bitter and vindictive feelings ; and when anger begins to rise, turn from the provocation, for poring over it only re-aggravates ; remember that both may be in error, and irritated by a foul stomach, or nervousness ; that the other cheek is better than revenge ; and find all possible excuses for the provocation.

VII. FORCE, OR "COMBATIVENESS."

169. — ITS DEFINITION, LOCATION, PHILOSOPHY, &c.

THE DEFENDER—pluck ; power ; resolution ; efficiency ; courage ; bravery ; determination ; intrepidity ; boldness ; persistence ; resentment ; contrariness ; resistance ; energy ; defiance ; presence of mind ; protection of self, rights, &c. ; vim ; coolness in danger ; anger ; indignation ; love of contention and opposition ; let-me-and-mine-alone ; get-out-of-my-way, &c. When perverted it creates pugnacity, and a quarrelling, fighting, attacking disposition.

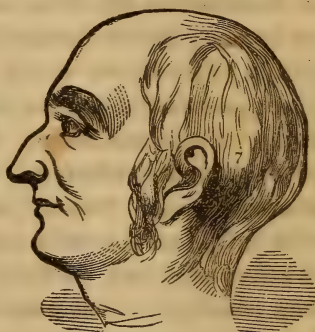
FORCE is one of the primal and essential attributes of Nature, and all her productions. What could anybody or anything accomplish or enjoy without it? Could earth move, winds blow, water run, tides rise, or anything whatever grow, or even put forth one single function? Every transaction in Nature, every function of life, involves and requires its exercise.

RESISTANCE is also indispensable to both existence and enjoyment. Is not breathing a perpetual double resistance to atmospheric pressure in both inspiring and expiring air? What is walking, working, every motion we put forth, but resistance to air, gravity, obstacles, &c. A stone, log, anything is to be lifted, or anything else executed ; pray what is all we do but resisting something? What is raising our hand to our head, and every other motion, but resistance? Do not our bodies perpetually resist atmospheric pressure? How could growth take place without resistance? Does not every tree maintain itself every instant by perpetual and most powerful resistance to gravity, winds, frosts, &c.? And this is virtually true of whatever grows above ground. In fact, —

LIFE IS ONE ROUND of resistances of all kinds. We even live by fighting off disease and death.

COLD, HEAT, STORMS, winds, must be defied and overcome.

FORCE LARGE.



No. 125. — MR. DRIVER.

- Seated in a room rendered comfortable by this very resisting principle, we wish to go out to a lecture, or for any other pleasure-promoting purpose. We first put on overcoat and hat, overshoes and scarf, all solely to resist and oppose cold, wind, and snow. The moment we open the door a stiff blast of freezing cold wind, with snow flying into our face, would soon drive us back but that we brace ourselves up against them with a powerful effort of the will; fend and fight them off; drive right out into cold and storm; breast stinging cold and hurricane winds, and snowdrifts encountered; overcome gravity itself; and fight our way to and through all opposing difficulties to our place of destination, ay, even actually enjoying our trip all the more on account of our struggles in going; whereas, but for this resisting element, we would have dozed away at home.

SELF-DEFENCE is both an attribute of Nature, and but another aspect of this resistance. Only those who protect themselves can be at all well protected. Non-resistants are easily and generally imposed upon. Nature puts everything into its own keeping,¹⁶² with this most powerful and perpetual command to allow nothing to injure self, and to fend off all such attempts; and backs it up with some efficacious means of self-defence. Thorns and thistles defend themselves by their sharp points, thus virtually saying "then let me alone." Stinging insects, such as wasps, bees, hornets, &c., say the same thing, yet always let us alone if we do not trespass upon them or their domicile. The very hardness of stones, wood, and whatever is hard is but this identical resistance and self-defence united. What is the bark and outside covering, skin included, on everything that grows; the bony armor of all crustacea, all scales included; the horns and nails of whatever has either; the hair on all heads and bodies; the dermic cushions on soles and palms; hoofs, eyelids, scalp, kneecap, and ten thousand like natural contrivances, but so many protecting and self-defensive artifices, devised expressly to resist, fend off, and protect? But why enumerate any when all Nature is interspersed with both of these elements, resistance and self-protection? What one thing but embodies them? and to the very existence of what is it not necessary? "None shall injure me with impunity" is a label placed by Nature on all her productions, with armor of some kind to execute it.

OTHER PERSONS AND THINGS besides self must be defended. All parents naturally do and should defend children, wife, husband, property, character, the oppressed, rights, the weak, truth, &c.

GROWTH is but another manifestation of this great element. Roots must force themselves through hard soil; sap must enforce enlargement in thick bark; blood must force its passage through several sets of very fine capillary vessels; man must force his plans and ends through opposing obstacles innumerable; and myriads of like illustrations show the necessity of some enforcing element. The very origination of life, and exercise of all its functions, involves great *force* from its beginning to its ending.

IDEAS, even, must be enforced. Most of the doctrines of this book, for example, are both entirely original, and at variance with the received ideas of mankind. They are true and important, but can never be beneficial or adopted any farther than they are *driven home* upon the inner sense of their adopters, and with sufficient force to *compel* existing ideas to give place to them. "Milk-and-water" tameness could never effect this.

AGGRESSION is another fixed fact in Nature. Her policy is to crowd all her domains full of various forms of life, some of which are constitutionally antagonistic to each other; and whatever cannot co-exist, which is quite often, must either conquer or be overcome. The race of life is a severe one, and given by natural law to strength. Nations must serve, unless they can enforce servitude in some form; so must persons and things. This presupposes some antagonizing element. The stronger and more virile kinds of vegetables, animals, and men overcome and displace the weaker, and appropriate them and their places. Nature wants no sickly lilliputs any longer or farther than till she can fill their places by stronger productions, and has ordained that weakness shall everywhere go under. This presupposes aggression in the stronger, and resistance in the weaker.

DANGERS often threaten. Their sources are almost infinite. We must escape them somehow, or be overwhelmed by them. Caution supplies one means, but defiance another. A right sturdy fight often unhorses them; while cowardice makes us their easy captives. A bold front often either disarms them, or enables us to avert their impending blows. A frightened horse dashes off

and endangers our life and that of all we hold dear; yet, by doing *just* the right thing at the right time, the threatened danger is converted into safety.

PRESENCE OF MIND is, at least, a very handy life-attendant. Sometimes every power of mind and body must be taxed to their utmost tension to save life, or limb, or property. But this requires some *marshall* of all these forces. Intellect, both perceptive and reflective, must *see* all existing facts, and devise instantly by just what ways and means the threatening danger can best be met and averted, and every Faculty of the mind, every muscle of the body, every energy of our being, must be instantly summoned to the rescue, and be *made* to contribute each its full quota. A mental *marshal* to effect all this is the first prerequisite. This Faculty furnishes it.

BATTLES, physical and mental, of all kinds, and in reference to all imaginable subjects, are to be fought all through life. Every boy and girl, man and woman, must "take *own* part," or it will be very poorly taken. We must both *be* aggressors even in enforcing our ideas, and resist aggression; must fight, and fight back; must overcome, or else be overcome; and put down, or be put down. In short, what is life but one triumphal march from "conquering to conquer?" Passivity is not life. The oyster may seem to form an exception, but does it not resist by its shell, and open and shut its valves in feeding?

THE very mastication of food, as well as getting it, every stroke of work done, breath drawn, motion made, idea put forth, and function of life exercised, involves and requires force, power, resistance, energy, and vim. This whole class of nouns, and their verbs, including bold, brave, daring, intrepid, angered, and a thousand like expletives, demonstrate the existence of this attribute of Nature, and element in man, which presupposes a corresponding Faculty of the mind,³³ and organ in the brain,³⁹ which we call Force, as more expressive of its function than Combative-ness; though resistance or energy would do about equally well.

170. — ANALYSIS, DESCRIPTION, CULTIVATION, AND RESTRAINT OF FORCE.

GALL discovered this Faculty and organ by collecting at his house coachmen and others of the lower class, stimulating them

with beer, wine, and money, obtaining their confidence, and inducing them to tell what they knew about each other's peculiarities.

"SOME they called *bravos*, others contemptuous poltroons. I arranged each by themselves; inspected carefully the heads of both; found those of the braves much broader and fuller immediately behind and on a level with the tops of the ears than those of the poltroons; assembled again a lot of the braves, and afterwards of the poltroons, separately, and found my first observations confirmed; compared the heads of known brave men with acknowledged cowards, with the same results; found a first-rate, intrepid, fearless fighter, who entered the ring to sustain alone a fight with a wild boar, or bull, or any ferocious animal whatever, these public fights being then common; took a cast of his head; found this same region in it very broad and rounded, and this same form in university students expelled several times for duelling, one of whom, though small and seemingly feeble, took intense delight in sitting in an ale-house and mimicking drinking workmen till they challenged him to fight, when, putting out the lights, he battled them in the dark with fists and chairs; examined quarrelsome and peaceable boys in schools and families with precisely the same results; found a beautiful female, who often before marriage donned male attire and fought with street blackguards, and after marriage often challenged guests and others to wrestle; and another small and delicate, but plucky fighter; observed this region very large in the skull of a remarkably brave general lately deceased, and like that of the beast fighter, but flattened and narrow in the cowardly poet Alexinger, who allowed himself to be imposed upon, &c., till I began to speak and write with confidence about this Faculty and organ of courage.

"HORSES whose heads are narrow between their ears are skittish and timid; while those whose ears are set far apart at their base are bold and steady. Cowardly dogs are narrow above and a little behind their ears, whilst those rashly bold are narrow in this region. A cock-fighting amateur told me, as a great secret, that he could always tell good fighters by their great breadth of head a little in front of the ears. Dr. Spurzheim makes the same observation on English gamecocks, the hens of which drive off all others.

"GRAMINIVOROUS ANIMALS are often more courageous than carnivorous. A deer, in the Vienna arena, destined to be torn in pieces by a lioness, when he saw her about to spring on him, sprang on her first, stamped on her ribs, and so disabled her that she could hardly be got back to her cage, where she died soon after. He goats sometimes crush dogs with their horns, and hunters frequently become victims of the chamois, while rats and squirrels are often rashly daring. If beasts of prey, armed as they are with teeth and claws, were also courageous to rashness, nothing could withstand them; yet nothing but hunger induces them to risk a bold stroke. The wild bull often engages and usually conquers the tiger with his incredible strength and suppleness." — *Gall*.

"THERE is a principle in our minds which is our constant protector, which slumbers when not wanted, but becomes the more vigorous the

more its aid is needed. A sword, or other defensive weapon, rushing into our hands just when needed, would be but feeble assistance compared with this simple emotion which Heaven has caused to *rush*, as it were, into our minds, for repelling every attack. — *Dr. Thomas Brown.*

"COMBATIVENESS, then, confers the instinctive tendency to oppose. In its lowest degree of activity it leads to simple resistance; in a higher, to active aggression, physical or moral, to remove obstacles. Courage accompanies the active state of this propensity. Hence, one with predominant Combativeness anticipates in a battle the pleasure of gratifying his ruling passion, and is blind to all other considerations. He is a fighting animal. Courage, however, when properly directed, is useful to maintain the right. On this account a considerable endowment of it is indispensable to all great and magnanimous characters. Indeed, I have observed that the most actively benevolent persons of both sexes, who face poverty and vice to relieve them, have this organ fully developed.

"WHEN TOO energetic and ill-directed, it inspires a love of contention for its own sake, and produces the controversialist who will wrangle and contest every point, and 'though vanquished, argues still,' rendering contradiction a gratification.

"WHEN LARGE and active, it gives the voice a hard, thumping sound, as if every word contained a blow, as did Bonaparte's, when angry; and a sharp expression to the lips, and throws the head backward and a little to one side, like boxers and fencers." — *Combe.*

GALL CHRISTENED it "instinct of self-defence, and defence of property," which Spurzheim justly changed to resistance, and rechristened it "propensity to fight, or Combativeness," which Robert Cox still thinks too limited, and calls it "propensity to oppose, or Oppositiveness," all of which the Author thinks still too limited in range; and that Force, to surmount obstacles, and carry out one's wishes against all opposition, is its true function. We thought to call it Resistance; but this is too passive a name for so positive an element, while Force certainly expresses its average manifestation in every-day life better than either of the other names suggested. At least, its *philosophy*, as already given, conveys a correct idea of its normal function.

LARGE—Show always and everywhere the utmost heroism, boldness, and courage; can face the cannon's mouth coolly, and look death in the face without flinching; put forth remarkable efforts in order to carry measures; grapple right in with difficulties with a real relish, and dash through them as if mere trifles; love pioneer life, and adventurous, even hazardous expeditions; shrink from no danger; are appalled by no hardships; prefer a rough and daring life of struggle and hairbreadth escapes to a quiet, mo-

notonous business; are determined never to be conquered, even by superior odds, but incline to do battle single-handed against an army; with Caution only full, show more valor than discretion, are often foolhardy, and always in hot water; with smaller Secrecion and Ambition, are most unamiable, if not hateful; with drinking habits and bad associates, have a most violent, ungovernable temper; are most desperate, bitter, and hateful, and should never be provoked; love debate and opposition; are perfectly cool and intrepid; have great presence of mind in times of danger, and nerve to encounter it; with large Parental Love, take the part of children; with large Inhabitiveness, defend country; with activity large and vitality moderate, overdo perpetually, and should throw far less vim into efforts; with a powerful muscular system, put forth all the strength in lifting, working, and all kinds of manual labor; with great Vitativeness and Destruction, defend life with desperation, and strike irresistible blows; with large Acquisition, maintain pecuniary rights, and drive money-making plans; with large Ambition, resent insults, and large Friendship added, defend the character of friends; with full or large Dignity, defend personal interests, take own part with spirit, and repel all aggressions; with moderate Dignity, and Kindness and Friendship large, defend the interests of friends more than of self: with large Conscience, prosecute the right, and oppose the wrong most spiritedly; with large intellectual organs, impart vigor, power, and impressiveness to thoughts, expressions, &c.; with disordered nerves, are peevish, fretful, fault-finding, irritable, dissatisfied, unreasonable, and fiery in anger, and should first restore health, and then restrain this fault-finding disposition, by remembering that the cause is internal, instead of what is fretted at.

MUCH APPARENT courage, however, is prompted by other Faculties. Soldiers, with it only fair, often fight desperately from Ambition to be called brave at home, or from patriotism; and some even from fear of being branded cowards, or captured, or because they know running is actually more dangerous than fighting; while others still both run and fight from imitation, because others do either. A boy in Milton, Penna., reputed brave, even to rashness, because he dared ride a running, rearing horse, yet whom I pronounced a coward, in a public blindfold test examination, who feigned bravery, yet always

backed down when forced to fight, and could never be got on to a strange horse, confessed when finally told by his mother :—

“ John, you know you are a coward, because you never dare go to bed alone, and are afraid to go anywhere in the dark.”

“ I know it, mother, but I don't want the other boys to know it, and pretend to be brave to make them afraid to call me out, and so let me alone.”

RASHNESS, is often consequent on fear, or Caution reversed. Wm. B. Powel claimed to have discovered an organ of desperation, adjoining Caution, because found large in stabbing and shooting Southrons : whereas these affrays usually result from excessive Caution frenzied, or fear lest they themselves be killed first. Runaway horses are reckless, and dash into danger, from fright not Force. The question turns, not on the act itself, but on the actuating *motive*, a principle already applied to some of the other Faculties, and applicable to all.

CAUTION LARGE, WITH DISORDERED NERVES, constitutes a combination peculiarly unfavorable to the happiness of both its victims and those around them. Excessive Caution alone is quite bad enough, but superadding nervousness makes it ten times worse, especially in exquisitely organized women, who are also disordered in their special organs. Such ailments, while they affect all the manifestations of the mind, cause gloomy, blue, sad, murky, forlorn feelings, as sexual health does buoyancy and ecstasy of spirits, ³⁴⁰⁻³⁴⁴.

They affect Caution by far the most unfavorably, rendering those who are naturally the most pleasant and agreeable of women the most repulsive, suspicious, and hateful possible. They thus become like skittish horses by moonlight, seeing some spook behind everything, some death in every pot, some occasion for alarm in everything, good, bad, and indifferent. If a husband is absent one minute over his wonted time, he is killed sure. If a child is out of sight, its life is in imminent danger. All prospects are scanned through their sombre glasses of apprehension and fright, and evil, and only evil awaits them at every turn. A sword hangs ever suspended over their doomed heads by a hair, in constant danger of falling and piercing them through their hearts. If while riding the horse shies aside one step, he is about to run away and smash all to atoms. If a husband looks at any other woman, suspicion and jealousy frenzy all their love, and prompt false accusations and recriminations, the only grounds for which exist in their disordered fears. They fuss and worry, tew

and stew, scold and threaten, accuse and malign, not only wholly without cause, but against possibilities. Sensible in all other respects, they seem utterly bereft of reason by their whimsy fears. Let such bear in mind that these morbid fears are consequent on *physiological* disorders alone, and spring from *within* not without.

DELIRIUM TREMENS has a kindred origin. Why should it conjure up such horrid, ghastly, frightful spectres, such hideous sights? The principles explained in ²⁶⁻²⁸⁻³⁰ answer. Those principles mean far more than they seem to at first sight, and give cast and coloring to all the mental manifestations; all must recognize their truth, but none at all realize how true they are, nor how far reaching and potential their influence.

FULL — Evince those feelings described under large, yet in a less degree, and modified more by the larger organs; thus, with large moral and intellectual Faculties, show much more moral than physical courage; maintain the right, and oppose the wrong; yet, with Firmness large, in a decided rather than a combative spirit, &c.

AVERAGE — Evince this combative spirit according to circumstances; when vigorously opposed, or when any of the other Faculties work in conjunction with Force, show a good degree of this opposing, energetic feeling; but when large Caution or Ambition, &c., working against it, are irresolute, and even cowardly; with an active Temperament, and disordered nerves, especially if dyspeptic, have a quick, sharp, fiery temper, yet lack power of anger; will fret and threaten, yet mean and do but little; with a large brain, and large moral and intellectual organs, will put forth fair intellectual and moral force when once thoroughly roused, which will be but seldom; with large Ambition, and small Acquisition, will defend character, but not pecuniary rights; with large Caution, may be courageous where danger is far off, yet will run, rather than fight; with smaller Caution, will show some resentment when imposed upon, but submit rather tamely to injuries; with very large Parental Love, and only average Friendship, will resent any injuries offered to children with great spirit, yet not those offered to friends, &c.

MODERATE — Rather lack efficiency; with only fair muscles, are poor workers, and fail to put forth even the little strength

possessed; with good moral and intellectual organs, possess talent and moral worth, yet are easily overcome by opposition or difficulty; should seek some quiet occupation, where business comes in of itself, because loath to intrude unbidden upon the attention of others; are too good to be energetic; with weak Acquisition, allow virtual robbery without resentment; with large Caution, are tame and pusillanimous; with large Ambition, cannot stand rebuke, but wilt under it; with moderate Dignity and Hope, are all "I can't, it's hard," &c., and will do but little in life.

SMALL — Are inert and inefficient; can accomplish little; never feel self-reliant or strong; and with large moral and intellectual organs, are too gentle and easily satisfied; with large Caution, run to others for protection, are always complaining of bad treatment, and manifest scarcely any energy.

IN SPEAKING, when large, it is to the enunciation of words what a full charge of powder is to a ball, namely, it hits each word a propelling thump as it comes out, and expels it with such force as to strike the auditors, as it were, with unction and emphasis, so as to command attention, and make and leave a distinct impression; whereas, deficient Force lets the words drawl slowly and fall tamely at the speaker's, or rather whiner's, feet. Its influence on the style of writers is similar, and it causes both writers and speakers to use words of a harsher and more positive import. Much of that positiveness of manner and boldness of expression usually attributed to self-esteem are caused by this Faculty.

IRRITABILITY OF TEMPER, usually attributed to this Faculty, comes mainly from disordered nerves, and is consequent more on its deficiency than excess; because those in whom it is large feel all strung up taut, ready to meet and face everything, and hence never fret or chafe; yet those in whom it is deficient are easily overcome, and forever complaining; while pugnacity, rowdyism, fighting, &c., are its perversions, not legitimate functions.

TO CULTIVATE — Encourage a bold, resistant, defiant, self-defending spirit; fend off imposition like a real hero; rather encourage than shrink from encounter; engage in debate, and the mental conflict of ideas and sentiments in politics, in religion, in whatever comes up, and take part in public meetings; espouse

sides in everything; say, and try to feel, "None shall provoke me with impunity." To develop it, exercise it. Never indulge an "I can't," nor allow yourself to be beaten, provided you are right, nor be so faint-hearted as not to try; but make a bold, though judicious push, and then follow up so energetically as to carry all before you; have none of this tame pusillanimity which palsies effort, but be resolute. Do not stop to enumerate the obstacles in your path, but carry them by storm; and speak out as fearlessly and emphatically as though you MEANT all you said, and intended to enforce it.

IN WEAKLY CHILDREN, its culture often becomes indispensable, and can be effected first by muscular culture, for physical strength begets mental courage, as weakness does cowardice; and by telling them to always take their own part, never let any one not older and stronger than they impose on them. Teach "the other cheek" doctrine to rough, aggressive boys, but resistance and "fight" to cowardly snivellers. Never pity or baby such when they hurt themselves, but say "Never mind that," "You're no chicken," "Up and at it again," and encourage them. Boys in whom it is small are eternally troubled with the "I can't's." Infuse "I can and I will" into such, by encouraging them to try. Never scold them when they give up discouraged, or consider mountains molehills, but induce them to rely on themselves; and even imposing on them just enough every now and then to provoke their resentment, or start their "grit," will benefit them. Never wait on them.

TO RESTRAIN — Do just the opposite of the preceding advice; whenever you find anger rising, turn on your heel; avoid debate, and say mildly and pleasantly whatever you have to say; bear with imposition rather than resent it; cultivate a turn-the-other-cheek spirit; never swear, or scold, or blow up anybody; and restrain temper and wrath in all their manifestations.

CHAPTER II.

THE SOCIAL GROUP.

171. — ITS LOCATION AND OFFICE.

THE DOMESTIC AFFECTIONS create man's social ties, and home interests, and family and congregating instincts.

THEIR LOCATION is in the back and lower portion of the head. In proportion as they are developed they push the brain back and out behind the ears, and elongate it from the openings of the ears to the occiput.

THE EMBODIMENT of mankind into a great variety of groups, for accomplishing a great many purposes, is its distinctive mission. With the sexual and parental loves, it embodies mankind into families, and conjoined with Inhabitiveness, it creates home, with all its uses and sacred associations, including country, and aided by Dignity, institutes governments, with all their goods and evils; with the moral Faculties, religious denominations; with the intellectual, literary societies, and institutions, lyceums, public assemblages, schools, &c., and thereby effects indispensable ends innumerable.

LARGE — Are social, domestic, dotingly attached to family, and a dear lover of home, and all its ties and associations; take the greatest life pleasures in the family relations; sacrifice any and everything on the altar of family interests and enjoyments; are extremely loath to leave, and unhappy when away from family and home, and return with passional eagerness and fondness; and feel all over "There's no place like home."

FULL — Love family, home, and their ties and relations well, and sacrifice much, but not all for family, and love and enjoy it much; but this love is not paramount.

AVERAGE — Have a fair, but only fair, share of the domestic affections; will enjoy family well, but other things better; and, with culture, will be and make tolerably happy in the domestic relations, but not without.

MODERATE — Are rather deficient in the domestic sentiments and virtues; rather easily turned against family and home; leave them without much regret, &c.

SMALL—Care little for home, its inmates, or pleasures, and are barren of its virtues; and have scarcely any social ties, and they weak.

VIII. LOVE, OR "AMATIVENESS."

172.—ITS DEFINITION, LOCATION, PHILOSOPHY, AND HISTORY.

THE CREATOR—Gender; sexuality; the procreative and transmitting capacity and instinct; generative power and energy; estimation and love of the opposite sex; desire to love and be loved; sexual admiration and courtesy; gallantry in men, ladyism in women, and sexual politeness in both; conjugal devotion; parentage; physical love; passion. Its excess and perversion create libertinism, sensuality, obscenity, lasciviousness, nymphomania, lust, seduction, prostitution, &c.

ITS NATURAL LANGUAGE is very apparent, and cants the head directly back upon the nape of the neck. All lovers can tell by this sign whether and how much they are beloved. Note that affectionate backward reclining or drooping of the heads of all loving brides during their honeymoon, and learn therefrom to diagnose its active state in all others. This language is still more apparent in its ultimate exercise.

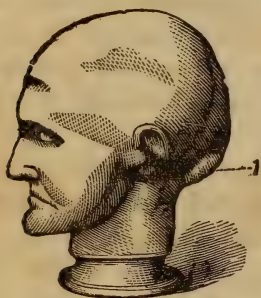
ITS FACIAL POLE is in the lips, near their middle portions, which its full development thickens and projects; so that large lips at their centres, as in Byron, indicate a warm, glowing, gushing love element. This shows both why love always kisses its object, and only with the middle of the lips; while Friendship and Platonic Love kiss about half way between the corners of the mouth and middle of the lips and Parental Love with one corner of the mouth.

GALL DISCOVERED it early, by accident, in a young widow patient who was the victim of periodical nymphomania, by often observing, while holding up the back of her head in his open hand, that it was both very thick at the nape of her neck, and very hot, and drawn back by its natural language, while she was suffering from its paroxysms. His knowledge of her inordinate passion, along with this thickness and heat, suggested the existence and location of this Faculty and organ, which have been verified extensively.

"It is situated at the top of the neck, and its size is proportionate to the space between the mastoid process, immediately behind the ears, and the occipital spine, in the middle of the hind head." — *Spurzheim*.

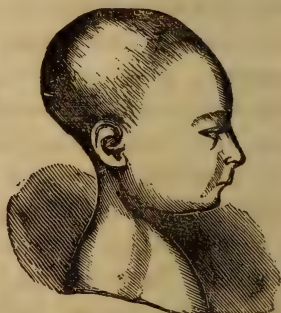
It is truly immense in the accompanying engraving of Aaron Burr, in whom this passion, with the power it gives over the opposite sex, exceeded anything often found; but it is small in that of the infant, as it is in all infants, and in a maiden at sixty, but is very large in GOTTFRIED, who poisoned her father, mother, all her children, and several husbands, because they prevented new loves.

VERY LARGE.



NO. 126. — AARON BURR.

SMALL.



NO. 127. — INFANT.

"THE SIZE of the cerebellum is indicated by the extension of the occipital bone backwards and downwards, or by the thickness of the neck at these parts between the ears. In some these lobes descend or droop, increasing the convexity of the occipital bone rather than its expansion between the ears. In such cases, the projection may be felt during life by the hand if firmly pressed on the neck."

"THE NERVES OF SIGHT can be traced into the *nates* lying very near these parts, while the nerves of hearing spring from the medullary streak on the surface of the fourth ventricle, lying immediately under the cerebellum, thereby corresponding with the fact that the eyes express most powerfully the passion of love; that abuses of the amatory propensity produce blindness and deafness; and that this feeling subsequently excites Friendship, Force, and Destruction into vivid action. *Spurzheim* says, 'It is impossible to unite a greater number of facts in proof of any one truth than those which determine that the cerebellum is the seat of the amatory propensity;' and in this I agree with him. Those who have not read *Gall's* section on this organ can form no adequate conception of the force of the evidence he has collected." — *Combe*.

"IN the quiet and unobtrusive state of this feeling, there is nothing in the least gross, or offensive to the most refined delicacy; while its deficiency is a very palpable defect, and a most unamiable trait of character. It softens all proud, irascible, and anti-social feelings and conduct towards the opposite sex, and augments all the kindly and benevolent affections. This shows why men are more generous and kind, more charitable and

benevolent towards women than men, or than women are to each other." — *Mr. Scott.*

ITS ADAPTATION is to Nature's sexual, or male and female ordinances. Whatever appertains to males and females as such, including marriage and reproduction, comes under this Faculty, and is governed by its laws. That creative department of Nature which it carries forward, and over which it presides, is primal and paramount in practical importance. It is even antecedent to life

AMATIVENESS AND DESTRUCTION VERY LARGE.

AMATIVENESS SMALL.



NO. 128. — GOTTFRIED, OLD MAN.



NO. 129. — SKULL OF A MAIDEN AT SIXTY, who died in the poorhouse, was taken to the dissecting-room, and found to be a virgin; obviously from sexual indifference. This organ is scarcely perceptible.

itself, which it creates, and was properly numbered one in former phrenological works; because it is the antecedent function of Nature, that which originates all her other functions, and without which no life could ever be put forth; for it must first be *begun* before it can execute any of its operations; yet as concerns each individual, Vitativeness is first, and starts the whole machinery of life into operation, and then keeps it running just as long as possible.⁷⁶ Life must first be generated, but without Vitativeness, it would expire with its creation; so that we have headed our list of Faculties with Vitativeness, instead of Love, and followed with those functions necessary to animal existence; yet treat this next, as next in relative importance.

NATURE SEXES all forms of life. "Male and female created He" all that lives, and all their emanations.⁶⁰ All the tones of voice of whatever utters vocal sounds, every look and act, every

idea and thought, is masculinized or feminized by this all-pervading element.

REPRODUCTION is the end it attains. All forms of life emanate from this all-creative source — an end as important as life itself is valuable.¹⁵

MALE AND FEMALE are both its creation, and its instrumentality of action; while their mutual attraction constitutes the *mode* or manner of its expression. Love as such, throughout all its phases, is its outworkings.

THE VAST NUMBER of human interests, and the amount of enjoyments which grow on this amatory Faculty far exceed those already shown to grow on Appetite, or any other element. Whatever appertains to either sex as such, and all their mutual duties and inter-relations, grow on this tree, such as love, selection, courtship, married life, and reproduction, of course including the treatment due between fathers and daughters, mothers and sons, &c.

173. — DESCRIPTION, CULTURE, AND RESTRAINT OF LOVE.

IT CREATES in each sex admiration and love of the other; renders woman winning, persuasive, urbane, affectionate, loving, and lovely, and develops all the feminine charms and graces; makes man noble in feeling and bearing, elevated in aspiration, gallant, tender, and bland in manner, affectionate towards woman, highly susceptible to female charms, and clothes him with that dignity, power, and persuasiveness which characterize the male.

LARGE — Are admirably sexed, or a well nigh perfect male or female; literally idolize the opposite sex; love almost to insanity; treat them with the utmost consideration; cherish for them the most exalted feelings of regard and esteem, as if they were superior beings; have the instincts and true spirit and tone of the male or female in a pre-eminent degree; must love and be beloved; are sure to elicit a return of love, because intuitively winning, attractive, and attracted; almost worship parents, brothers, or sisters, and children of the opposite sex; with organic quality, and the other social organs large, have the conjugal intuition in a pre-eminent degree; assimilate and conform to those loved, and become perfectly united; and with Constancy large, manifest the most clinging fondness and utmost devotion, and are made or unmade for life by the state of the affections; have many warm

friends and admirers among the other sex ; love young and most intensely, and are powerfully influenced by the love element for good or evil, according as it is well or ill placed ; with Friendship and Constancy large, will mingle pure friendship with devoted love ; cannot flourish alone, but must have a matrimonial mate, with whom to become perfectly identified, and whom to invest with almost superhuman perfections ; with large Beauty and the mental Temperament added, will experience a fervor and intensity of love, amounting almost to ecstasy or romance ; can marry those only who combine refinement of manners with correspondingly strong attachments ; with Parental Love and Kindness also large, are eminently qualified to enjoy the domestic relations, and be happy in home, as well as to render home happy ; with Inhabitiveness also large, will set a high value on house and place ; long to return home when absent, and consider family and children as the greatest of life's treasures ; with large conscience added, will keep the marriage relations inviolate, and regard unfaithfulness as the greatest of sins ; with Force large, will defend the object of love with great spirit, and resent powerfully any indignity offered them ; with Appetite large, will enjoy eating with loved one and family dearly ; with Ambition large, cannot endure to be blamed by those beloved ; with Caution and Secrecy large, will express love guardedly, and much less than is experienced ; but with Secrecy small, will show in every look and action the full unveiled love of the soul ; with Firmness, Dignity, and Constancy large, will sustain interrupted love with fortitude, yet suffer much damage of mind and health therefrom ; but with Dignity moderate, will feel crushed and broken down by disappointment ; with the moral Faculties predominant, can love those only whose moral tone is pure and elevated ; with predominant Beauty, and only average intellectual Faculties, will prefer those who are showy and gay to those who are sensible, yet less beautiful ; with Mirth, Time, and Tune, will love dancing, lively company, &c.

FULL — Possess quite strong susceptibilities of love for a congenial spirit ; are capable of much purity, intensity, and cordiality of love, if its object is about right ; with Friendship and Kindness large, will be kind and affectionate in the family ; with a highly susceptible Temperament, will experience great intensity of love, and evince a good degree of masculine or feminine excellence, &c.

AVERAGE — Are capable of fair conjugal attachments, and calculated to feel and exhibit a good degree of love, provided it is properly placed and fully called out, but not otherwise; experience a greater or less degree of love in proportion to its activity; as a man, are quite attached to mother, daughters, and sisters, and fond of female society, and endowed with a fair share of the masculine element, yet not remarkable for its perfection; as a woman, quite winning and attractive, yet not particularly susceptible to love; as a daughter, fond of father and brothers, and desirous of the society of men, yet not especially so; and capable of a fair share of conjugal devotedness under favorable circumstances; combined with an ardent Temperament, and large Friendship and Beauty, have a pure and platonic cast of love, yet cannot assimilate with a coarse Temperament, or a dissimilar phrenology; are refined and faithful, yet have more friendship than passion; can love those only who are just to the liking; with Caution and Secrecion large, will express less love than is felt, and that equivocally, and by piecemeal, nor then till the loved one is fully committed; with Caution, Ambition, and Worship large, and Dignity small, are diffident in promiscuous society, yet enjoy the company of a select few of the opposite sex, &c.

MODERATE — Are rather deficient, though not palpably so, in the love element, and averse to the other sex; love their mental excellences more than personal charms; show little desire to caress or be caressed; and find it difficult to sympathize with a conjugal partner, unless the natural harmony between both is well nigh perfect; care less for marriage, and can live unmarried without inconvenience; with Constancy large, can love but once, and should marry the first love, because the love-principle will not be sufficiently strong to overcome the difficulties incident to its transfer, or the want of congeniality; and find more pleasure in other things than in the matrimonial relations; with an excitable Temperament, will experience greater warmth and ardor than depth and uniformity of love; with Beauty and organic quality large, are fastidious and over-modest, and terribly shocked by allusions to love; pronounce love a silly farce, only fit for crack-brained poets; with Ambition large, will soon become alienated by rebukes and fault-finding; with Friendship and the moral and intellectual Faculties large, can become strongly at-

tached to those who are highly moral and intellectual, yet experience no affinity for any other, and to be happy in marriage, must base it in the higher Faculties.

SMALL — Dislike the opposite sex, and distrust and refuse to assimilate with them; feel little sexual love, or desire to marry; are cold, coy, distant, and reserved towards the other sex; experience but little of the beautifying and elevating influence of love, and should not marry, because incapable of appreciating its relations, and making a companion happy; and are passively continent.

✓ TO CULTIVATE — Mingle much in the society of the other sex; observe and appreciate their excellences, and overlook their faults; be as gallant, as gentlemanly or lady-like, inviting, prepossessing, lively, and entertaining in their society as you know how to be, and always on the alert to please them; say as many complimentary and pretty, and as few disagreeable things as possible; that is, try to cultivate and play the agreeable; if not married, contemplate its advantages and pleasures, and be preparing to enjoy them; if married, get up a second and an improved edition of courtship; re-enamour both yourself and conjugal partner, by becoming just as courteous, loving, and lovely as possible; luxuriate in the company and conversation of those well-sexed, and imbibe their inspiring influence; be less fastidious, and more free and communicative; establish a warm, cordial intimacy and friendship for them, and feast yourself on their masculine or feminine excellences; if not married, marry, and cultivate the feelings, as well as live the life of a true and hearty sexuality.

TO RESTRAIN — Simply *direct* this love element more to the mental, and less to the personal qualities of the other sex; admire and love them more for their minds than bodies, and more for their moral purity and conversational powers than as instruments of passion; seek the society of the virtuous and good, but avoid that of the vulgar; should mingle in their society to derive moral elevation and inspiration therefrom, and be made better, not to feed the fires of passion, and yield to their moulding influences for good; should be content to commune with their *spirits*; should sanctify and elevate the cast and tone of love, and banish its baser forms; especially should lead a right *physiological* life, avoid tea and meats, and abstain wholly from coffee, tobacco, and all forms

and degrees of alcoholic drinks, wines and beer included; exercise much in the open air; abstain wholly from carnal indulgence; work off your vital force on other functions as a relief of this; bathe daily; eat sparingly; study and commune with nature; cultivate the pure, intellectual, and moral, as the best means of rising above the passional; and put yourself on a high human plane throughout. Remember that you require its purification, elevation, and right direction, rather than restraint, because it is more perverted than excessive; and that the inflamed state of the body irritates and perverts this passion, of which a cooling regimen is a specific antidote.

LOVE! How inexpressibly sacred! Is divine Worship any more so? What other human emotion penetrates quite as deeply into the very rootlets and soul of human existence as does this tender sentiment? For what does a man "launch out" as freely as to the female he loves? She generally gets more of his time, money, feelings, and soul than his Saviour. Even Appetite gets but a moiety as much of either. All human experience concurs in pronouncing this "man's one grand master passion." Say, all ye who have ever loved, — and who, matured, but has, — what *one* sentiment ever struck away down in the very rootlets of your being as did this divine sentiment?

SO IMMEASURABLY important is this whole subject of love, conjugality, and reproduction, that the Author has consecrated to it an entire volume, nearly the size of this, in which this whole subject is discussed from a purely *scientific* standpoint. Its inherent interest and value may be partly inferred from its title-page, as follows: —

SEXUAL SCIENCE, including Manhood, Womanhood, and their Mutual Inter-relations; LOVE, its Laws, Power, &c.; SELECTION, or Mutual Adaptation; COURTSHIP, or Love Making; MARRIED LIFE made happy; REPRODUCTION, and Progenal Endowment, or Paternity, Maternity, Bearing, Nursing, and Rearing Children; PUBERTY, Girlhood, &c.; SEXUAL AILMENTS restored, and Female Beauty perpetuated, &c., as taught by Phrenology.

IT CAN BE HAD of the publishers of this work; has far out-sold any and all other works on the Pacific coast, and been enthusiastically received by woman; is what its title indicates — a *scientific* treatise on this whole subject of love, marriage, and offspring; and with this work, embodies *all* of the Author's writings.

IX. CONSTANCY, OR "UNION FOR LIFE."

174. — ITS DEFINITION, LOCATION, HISTORY, AND RATIONALE.

MONOGAMY — Conjugalitv; fidelity; mating; duality and exclusiveness in love; when morbid it creates jealousy.

PERVERTED and in excess, as it often is, it mourns and pines in broken-hearted grief over the death, absence, or desertion of one beloved, "refusing to be comforted;" thereby spoiling life and hastening death.

ITS LOCATION is above Love, below Friendship, between the two, and on each side of Parental Love. This is precisely where its office requires that it should be placed.

THE COMPLETE REARING OF YOUNG is the specific department of humanity allotted to this Faculty. It neither creates, nor loves them, but its office is to see that all the children of either parent are by the other; in order, thereby, to prevent that educational collision which must needs arise if either parent had children by any others. Its real distinctive mission is to secure the educational co-operation of fathers in rearing their own children. It rests on the following human necessities: —

1. PARENTS can rear their *own* young the best.¹⁷⁶
2. FATHERS must help mothers rear their mutual children.
3. TO THIS END every father must *know* his own.
4. MATERNAL CONSTANCY to the father of any *one* of her children thus becomes necessary, in order that *all* may be by him; because different fathers must needs come in perpetual antagonism in the rearing of their children by the same mother. This renders this Faculty necessary in mothers.
5. FATHERS require it to prevent their educational efforts from being scattered and distracted, as they must be if they helped rear offspring by different mothers.

BEING WITH children is necessary in order to rear them all well. In case he had children by different mothers, either both must live together, or else he must be separated from all the others whenever he was with either. This would distract him in case he duly loved either his children or their mothers; scatter his efforts and means for promoting their comfort; necessitate different domiciles and sets of creature comforts; and introduce

universal confusion throughout. On that plan no child could be much more than half reared; because its father's support and means must thereby be so frittered away upon several mothers and their children in as many different places as to be nearly nugatory.

DIFFERENT WIVES would not live together without quarrelling, unless they were either angels, or else completely cowed. If they were angels, their children would be worthless for this earth and sphere; but if they were cowed, and meekly submitted to their hard fate, as do many pious, subdued plurality wives and mothers, this crushed maternal state must needs leave their children poltroons, subdued, inert, tame, wanting in Force,⁶¹¹⁻⁶¹⁷ and so good that they would be better if they were worse. If these different mothers contended, they would necessarily bear natural fighters; while patient, humbled, subdued mothers must bear children wanting in snap and vim.⁶¹⁶ All plurality mothers must needs have one kind or the other of these children.

PLURALITY HUSBANDS, too, do not occupy beds of roses. One of them, before a room full in my professional office, confessed that he was obliged to be *very* judicious and careful how he sided with either wife as against the other, or he got himself right into hot water; for one wife would pour *her* envious complaints into his ear the night he gave to her, and another fill his other ear with bitter invectives against Mrs. No. 1 the night he gave to her; and each of his seven wives really *insisted* that he hear and side with *her* as against all the others. He *must* say something, and what he said to either about the other was magnified and distorted in being repeated.

A PLURALITY WIFE expressed this very point, and put this identical difficulty well, thus:—

“WHEN any one of his other wives impose on me, which is often, I never say anything *to her*, but I GO FOR HIM.”

MANY plurality husbands—many? *all* without one exception, “no, not one,” will attest this truth *practically*. This same wife, in speaking of the cross this conjugal plurality imposed on polygamic wives, expressed herself thus:—

“It *does* seem as if the Lord had *tried His best* to see *how heavy* a cross He *could* compel us poor women to bear; but I suppose it is all right; for the greater the cross, the greater the crown.”

HER PIETY, to say nothing of her philosophy, has no equal, except in the devoted Hindoo widow, burning herself to cinders on the funeral pile of her husband. One of them thought God must love the *men* a great deal better than the women, to give the former so *great* a privilege of choosing and enjoying as many women as they could support, or make support themselves, yet putting women off with a fraction of a man's person and heart.

ALL plurality wives invariably "own up" that it goes terribly against their natural feelings, and some rebel outright, alleging, "I have not *piety* enough to stand *that*," — their husbands taking a second wife. Outsiders say that polygamic girls will not go with polygamists when they can get any monogamist to go with, who can take the most strictly educated plurality girls right away every time — a statement I neither indorse nor controvert, because I *know* nothing about it farther than that I found all polygamic females instinctively opposed at heart to plurality; and some as grief-stricken, and others as indignant as any women I ever saw in reference to *any* subject. Any institution must struggle long and hard to prosper in the teeth of any strong female antipathy arrayed against it.

A POWERFUL INSTINCT, based in a fundamental human necessity, is arrayed against plurality, and in favor of monogamy. The human mind, and especially female instinct, must be remodelled before plurality can be accepted.

ONE LOVE VS. PLURALITY is philosophically discussed in "Sexual Science," in favor of that *duality* of affection inherent in the very *fact* of this mating instinct.⁴¹⁷⁻⁴²⁴ Its full presentation there excuses us from repeating its several points here; yet all observations made since that work was written coincide perfectly, as does universal human Nature, with the *one-at-a-time* love there and here recommended.

HUMAN BEINGS, male and female, you will find practically this plurality of loves "a hard road to travel," beset with thorns, venomous reptiles, and miseries innumerable; because it breaks God's holy love laws; but the one-love pathway most easy and delightful, because "God hath made us so." None ever have found, ever will find, in practice, these scattered, fitful, hither-and-yon loves, this one to-day, and that to-morrow, pleasurable except at their very beginning, but unmitigatedly wretched ever

after. Never *begin* to love without *continuing* through this life, and the next.²¹⁵ This one love intuition was inserted into man by Infinite Wisdom to be *respected* and obeyed, not violated. *A Faculty of your soul* commands fidelity to one. See that you heed and obey its "still small voice."

175. — DESCRIPTION, CULTIVATION, AND RESTRAINT, OF CONSTANCY.

LARGE — Select some ONE of the opposite sex as the sole object of love; concentrate the whole soul on this single loved *one*, magnifying excellences and overlooking faults; long to be always with that one; are exclusive, and require a like exclusiveness; are true and faithful in wedlock, if married in spirit; possess the element of conjugal union, and flowing together of soul, in the highest degree, and with large Continuity, become broken-hearted when disappointed, and comparatively worthless in this world; seek death rather than life; regard this union as the gem of life, and its loss as worse than death; and should take special care to love only where it can be reciprocated for life; seek but one sexual mate, and are perfectly satisfied with the society of that one; experience the keenest disappointment when love is interrupted; are restless until the affections are anchored; and should exert every faculty to win the heart and hand of the one beloved; nor allow anything to alienate the affections.

FULL — Can love cordially, yet are capable of changing the object, especially if Continuity is moderate; will love for life, provided circumstances are favorable, yet will not bear everything from a lover or companion, and if one love is interrupted can readily form another.

AVERAGE — Are disposed to love but one for life, yet able to change the object, and, with Secrecion and Approbation large, and Conscience only full, are capable of coquetry, especially if Love is large, and Friendship only full, and the Temperament more powerful than fine-grained. Such should cultivate this Faculty, and not allow the other Faculties to break first love.

MODERATE — Are somewhat disposed to love only one, yet allow other stronger motives to interrupt affection, and, with Love large, can form one attachment after another with comparative ease, yet are not true as a lover, nor faithful to the connubial union.

SMALL — Have but little conjugal love, and seek the promiscuous society and affection of the opposite sex, rather than a single partner for life.

TO CULTIVATE — Never allow new faces to awaken new loves, but cling to the first one, and cherish its associations and reminiscences; do not allow the affections to wander, but be much in the company of the one already beloved, and both open your heart to love the charms, and keep up these thousand little attentions calculated to revive and perpetuate conjugal love.

TO RESTRAIN — Seal up and bury the volume of your first affection, and another will take its place; try to appreciate the excellences of others, remembering that "there are as good fish in the sea as ever were caught;" if a first love dies or is blighted, by no means allow yourself to pore over this bereavement, but transfer affection just as soon as a suitable object can be found, and be industrious in finding one, by making yourself just as acceptable and charming as possible. Above all, do not allow a pining, sad feeling to crush you, nor allow hatred towards the other sex.

X. PARENTAL LOVE, OR "PHILOPROGENITIVENESS."

176. — ITS DEFINITION, LOCATION, DISCOVERY, AND ADAPTATION.

THE NURSE — Attachment to own offspring; parental tenderness and affection; the petting, babying, cuddling sentiment; fondness for pets, animals, stock, and the young generally. It renders children the richest treasure of their parents; casts into the shade all the toil and expense they cause; and lacerates them with bitter pangs when death or distance tears them asunder. It is much larger in woman than in man; and Nature requires mothers to take the principal care of infants. Perverted, it spoils children by excessive indulgence, pampering, and humoring.

ITS NATURAL LANGUAGE bends the head back upon the neck. Those in grief for children naturally drop their heads backwards, and when this Faculty is suddenly shocked by their death so that they faint and fall, they always fall *backwards*, because this Faculty throws the head back. Always in kissing children and play-

ing with them, we throw the head back and forward, or else roll it on this organ from side to side.

PARENTAL LOVE VERY LARGE.

No. 130.—THE DEVOTED MOTHER,
BUT POOR WIFE.

PARENTAL LOVE DEFICIENT.



No. 131.—THE UNMOTHERLY.

ITS FACIAL POLE is in the lips, near the corners of the mouth. Parents always kiss their infants with that part of their lips. Note this fact, and the way they toss their heads when fondling them. We give the rule for finding it elsewhere.¹⁷⁸

"I HAVE observed that the occipital bone generally recedes more in female heads than in male, and of course the quality it manifests must also be the strongest. But what is this quality? After adopting and discarding many notions, I also observed that monkeys had a like prominence in this region. I often asked myself what one characteristic they possess in common? In a favorable moment, while lecturing, I was struck with the extreme love monkeys have for their offspring. I dismissed my class abruptly, that I might instantly compare this development in the heads of males and females. I found it uniformly the largest in females—human and animal. This new idea appeared the more plausible, because it is situated so near to Propagation."—*Gall*.

"GALL and I have examined the heads of twenty-nine infanticide mothers, in twenty-five of whom this organ was small. Its protuberance is commonly single, though this organ is double, like all the others on the middle line of the head. It sometimes enlarges, in breadth, rather than in length. Male and female skulls, among animals as well as men, can always be distinguished from each other by those of females being larger than males in Parental Love, but smaller in Amativeness—male heads being shorter and wider, and female longer and narrower.

"It produces only sympathy for young, not general tenderness; for Caribs and New Zealanders are ferocious, yet both parents are much attached to their young, and submit to all the inconveniences of bringing them up amidst privations and hardships of every kind; and ferocious

tigers and hyenas are as fond of their young as the gentlest and most docile of animals."— *Spurzheim*.

"NOTHING can well exceed the kindness with which the Esquimaux treat their children, their only amiable trait, and they adopt a great deal."— *Captain Parry*.

"MOTHERS carry their naked children on their backs until they are stout and able walkers, and give their whole time to them, while fathers often play with, but never correct them."— *Captain Lyon*.

"THIS ORGAN is conspicuous, and easily verified, and its manifestations are easily recognized. Those in whom it is strong, show it in every word and look towards children, who, by a kind of reciprocal freemasonry at once discover its presence or absence."

"MOTHERS dote most on their infants and feeblest children. Hence the youngest is generally the favorite, unless one older is sickly. Its primitive function is to inspire an interest in the helplessness of childhood. It fits for the sick chamber, and is essential to a successful teacher."— *Combe*.

"It makes maiden ladies love and fondle pet animals."— *Scott*.

THE INFANTILE STATE is that fact in Nature to which this Faculty is adapted. *Rearing young* is the end it secures. Offspring is that department of Nature over which it presides. It rears what Love produces.

REPRODUCTION is paramount, because in apposition to death; for without it all forms of life must perish in one generation, leaving all earth's bounteous provisions for the happiness of all her teeming myriads to go to eternal waste for want of enjoyers. Hence the potency of love to guarantee the creation of all forms of life.

IN CASE Nature's creative ordinances had ushered mankind and all else, like the fabled Minerva from the brain of Jupiter, into a possession of all his Faculties sufficiently full to take ample care of self from birth, it would have had no object, no work to execute, and hence been useless; but such incipient maturity is rendered impossible. Mature life is too great an affair to be started right out into full-orbed splendor suddenly. All that is, *grows*. It so is that incipient life is so small and feeble as to expose it to death and destruction from extra heat, cold, devourers of all kinds, and ten thousand other noxious surroundings. How could Nature reproduce a full-grown oak, elephant, whale, man, or anything else? From what source obtain materials? or who could fashion them? If parents had to bestow half of each of their organisms

and strength on every child, how many, rather how few, would ever be borne! Much as ever that she can create life in its lowest and most rudimental form; and even this is a creative marvel. Each recipient of life must have organs,²⁵ but must manufacture and fashion its *own* organism,⁵⁰ saving that merely rudimental one derived from parents. Yet where and how does it obtain the necessities of existence? From adults who have a surplus. How be kept warm enough to live, &c.? ¹³¹ By those already well grown. In short, —

It so is that young life needs and absolutely must have a great amount of adult care while it is growing sufficiently to take ample care of itself; for without it all forms of life must inevitably perish. Nature's provision for the care and rearing of all her young must be as ample and absolute as is the peopling of all her domains. Incipient life must be *reared*, not left to die. This rearing must be *assured*, not incidental; and *universal*, not partial. It must be inwrought into the very texture of whatever reproduces. This great, this indispensable end, can be secured only by an inborn mental *Faculty*, so as thereby to *guarantee* this juvenile rearing. So much for the end. Next for its means.

ALL PROVIDENT NATURE perceived this want of her young, and looking all around for the best means, agent, instrument for its execution, what as sure, as efficient, as always on call, as implanting in all parents an innate love of their young? At least she has adopted this means, by creating this sentiment.

IT MUST BE SPECIFIC, not general; something which will see that *every* one of all her countless myriads of young shall be cared for. Only those who can spare from their surplus means and strength will serve even this purpose. She interdicts parentage to those not fairly strong and robust; because she wants no sickly productions.⁵¹² Parents, then, have the required strength.

FITNESS is another rearing prerequisite. Huge animals are not adapted to rear pygmies, nor lilliputians giants. An elephant is not adapted to rear chickens, nor old hens young elephants; but adults of each species are only fitted to bring up young having like wants, passions, and appetites with themselves. All parents, by virtue of Nature's each-after-its-own kind law,³¹⁷⁻³²² are compelled to produce children like themselves, and therefore naturally adapted to rear their own young. They know when and where

to find them, because they know when and where they are born, and are "on hand" to snatch them at their first breath, and supply their earliest wants.

INCESSANT and consecutive care and expense are now necessary. Only a powerful *love* for infants as such could bestow this needed care, and this love must be as powerful as its needs are imperious. Parental Love supplies this incentive. How all-powerful is this sentiment! To try to depict its intensity is mockery. If heaven's languages can adequately portray it, certainly earth's cannot. Only love of life exceeds it, and often not even that;⁷⁵ for how many parents, human and animal, risk their own lives in defending their young! I once owned a most powerful dog. A cow with her young calf had just been driven into the yard, which I went out to see, this dog following. Though he could have thrown and throttled her in a minute, yet the moment he jumped into that yard, with head and horns fixed she "went for him" with all her might, and drove him from it. Robins pursue crows, and blackbirds hawks, by darting on them, and grabbing and jerking out feathers when they threaten their nests. A "naughty boy" took the eggs of a phœbe bird from her nest, where she *died* of grief, sitting on it, with her head thrown back in the natural language of this Faculty in distress, showing that she died of maternal grief. Passing the shore of a lake, I saw male and female perch swimming round and round in spherical sand basins, a foot through, they had made in warm shoal water, laying, impregnating, and covering their eggs. Spiders back their young around with them; leave them only when in immediate danger of death, and return to snatch them the first safe moment; while ants, disturbed, grab each an egg, and bear it to some safe place. Wasps and bees fight terribly in defence of their young, and sting only when their life or home is endangered. Hear that hen's ecstatic cackle whenever she lays eggs, and see how assiduously she incubates them; almost starving herself with long and constant sitting, and how tenderly she broods over, scratches for, and tends them with the utmost maternal solicitude! Those robins, blue-birds, all birds, how doting and devoted to their nests and young! How tender are cats of kittens! Deer defend their fawn with the utmost bravery, and even rashness. How fiercely sows fight for their pigs, and she bears for their cubs! How ferocious are

beasts of prey rendered by their young lacking food! Storks dash into those flames which are devouring their nests. King quails are sometimes beheaded on their nests by the mower, rather than desert and expose it.

MOTHERS! what emotion ever thrilled you as did the first cry of your first-born? and girls, what on earth do you like as much as your doll baby? Behold the incessant care of that sister for her junior brothers and sisters, and how perfectly delighted in seeing and nursing that darling little babe! Their wants are her wants, and their wishes overrule hers. With what mutual joy and ecstasy young wives and husbands learn their prospective paternity! What happiness as pure or exalted as that mother caring for and nursing her children! What human anxiety equals maternal for her ailing darling? and O, what agonizing grief when her heart's idol dies! In short, love of offspring is one of man's most imperious instincts; executes an end absolutely indispensable; pervades all forms of life; is strongest in females, on whom God in Nature devolves the chief care of young; is a distinct *sui generis* class of functions,³⁴ and therefore must be, and is, carried forward by its own specific mental Faculty.

LOVE OF OWN YOUNG is its express function; yet when strong, its yearnings often go forth towards the children of others, and even pet cats, dogs, and other animals; and hence is essential to farmers. Childless women often bestow on a favorite lapdog, or cat, the spontaneous gushings of this Faculty, even making a pet of flowers, trees, &c.

ITS UNIVERSALITY commands all to provide themselves with own children to love. This anti-child producing and rearing spirit now so fashionable is accursed, an outrage on one of man's strongest and holiest sentiments, and deserves rebuke, ay, *cursing*. Those so unwilling to rear should not have been reared; and those who purposely destroy them should themselves have been destroyed.

Since Part VIII. of "Sexual Science" is devoted exclusively to this rearing, we will not repeat here those principles for the care of infants, and government and training of children there unfolded; but remain content with this mere reference to them.⁶³³⁻⁶⁵⁸

177. — DESCRIPTION, CULTIVATION, AND RESTRAINT OF PARENTAL LOVE.

LARGE — Experience the parental feeling with the greatest possible intensity and power; almost idolize own children, grieve immeasurably over their loss, and with large Continuity, refuse to be comforted; value them above all price; cheerfully endure toil and watching for their sake; forbear with their faults; win their love; delight to play with them, and cheerfully sacrifice to promote their interests; with large Kindness, and only moderate Destruction, cannot bear to see them punished, and with only moderate Causality, are liable to spoil them by over-indulgence; with large Ambition added, indulge parental vanity and conceit; with large Caution and disordered nerves, are always cautioning them, and feel a world of groundless apprehensions about them; with Acquisition moderate, make them many presents, and lavish money upon them; but with large Acquisition, lay up fortunes for them; with large moral and intellectual organs, are indulgent, yet love them too well to spoil them, and do the utmost to cultivate their higher Faculties; with Force, Destruction, and Dignity large, are kind, yet insist on being obeyed; with these organs moderate, are familiar with, and liable to be ruled by them; with Firmness only average, fail to manage them with a steady hand; with Caution large, suffer extreme anxiety if they are sick or in danger; with large moral and intellectual organs, and less Force and Destruction, govern them more by moral suasion than physical force, and reason than fear, and are neither too strict nor over-indulgent; with Ambition and Conscience large, value their moral character as of the utmost importance, and are particularly interested in their moral improvement; with large excitability and worship, and only average Firmness, will pet one minute, but punish the next; with larger Ambition and Beauty than intellect, will educate them more fashionably than substantially, and dress them off in the extreme of fashion; with a large and active brain, large moral and intellectual Faculties, and Firmness, and only full Force, Destruction, and Dignity, are well calculated to teach and manage the young. It renders farmers fond of stock, dogs, &c., and women of birds, lapdogs, &c.; girls fond of dolls, and boys of being among horses and cattle; and creates a general interest in young and small animals.

FULL — Love own children well, yet not passionately ; do much for them, yet not more than necessary ; and with large Force, Destruction, and Dignity, are too severe, and make too little allowance for their faults ; but with Kindness, Friendship, and Conscience large, do and sacrifice much to supply their wants and render them happy. Its character, however, will be mainly determined by its combinations.

AVERAGE — Love own children tolerably well, yet care but little for those of others ; with large Friendship and Kindness, like them better as they grow older, yet do and care little for infants ; are not duly tender to them, or forbearing towards their faults ; and should cultivate parental fondness, especially if Force is large.

MODERATE — Are not fond enough of children ; cannot bear much from them ; fail to please or take good care of them, particularly of infants ; cannot endure to have them cry, or make a noise, or disturb things ; and with an excitable Temperament, and large Force, are liable to punish them for trifling offences, find much fault with them, and are sometimes cruel ; yet, with Kindness and Friendship large, may do what is necessary for their comfort.

SMALL — Care little for own children, and still less for those of others ; with Force and Destruction large, are liable to treat them unkindly and harshly, and are utterly unqualified to have charge of them, and conduct towards them as the other Faculties dictate.

TO CULTIVATE — Play with and make much of children ; try to appreciate their loveliness and innocence, and be patient, tender, and indulgent towards them ; and if you have no own children, adopt some, or provide something to pet and fondle.

TO RESTRAIN — Set judgment over against affection ; rear them intellectually ; give yourself less anxiety about them, and if a child dies, by all means turn your mind from that loss by seeking some powerful diversion and a change of associations, removing clothes and all remembrances, and keep from talking or thinking about them.

XI. FRIENDSHIP, OR "ADHESIVENESS."

178. — ITS DEFINITION, LOCATION, DISCOVERY, AND ADAPTATION.

"United we stand, divided we fall."

THE CONFIDER; co-operation; sociability; fondness; cosiness; association; love of society; joining efforts; desire to congregate, affiliate, unite with, visit, form friendships, entertain acquaintances, seek consorts, blend in with community, &c.

ITS LOCATION is external to Parental Love, and slightly above it. Friendship, Parental Love, and Inhabitiveness, are all easily found, in conjunction with Appetite, Force, and Destruction, by observing the following

RULES FOR FINDING the Social and Animal Organs: Beginning at the external angle of the eye, draw a line to the tip of the ear, and you are on Destruction, which runs horizontally. Three fourths of an inch before you reach this tip, and then three fourths of an inch down, brings you on Appetite. An inch above Destruction you are on Secretion, and an inch in front of Secretion, on Acquisition. Continuing this line straight on about an inch or inch and a quarter beyond this tip, brings you on to Force; and continuing it straight around to the middle line of the back head, brings you upon Parental Love. Letting your index finger rest on this point, spread your thumb and second finger an inch and a half or two inches apart, and you are on Friendship; while Inhabitiveness is an inch above Parental Love.

GALL DISCOVERED this Faculty and organ thus: He was requested to take the cast of a lady for his collection who was a model of friendship; having formed ardent friendships while in moderate circumstances, and become affluent and honored, yet still clinging to her old friends. He took it carefully.

"I FOUND two great prominences, constituting the segment of a sphere by the side of Parental Love. As up to that time I had never seen these prominences, which were evidently formed by the brain, and exceedingly symmetrical, I considered them a cerebral organ; but what were its functions?

"I INQUIRED of herself and friends for what one characteristic she was especially remarkable, and all concurred that she had the most in-

vincible attachment to her friends; and in passing from poverty to honor her feelings for her old friends had never changed. The idea occurred to me that there might be an organ of Friendship, and these prominences were that organ. This was greatly confirmed by their being directly above Love, and by the side of Parental Love; all three sentiments being analogous, gave it a degree of probability amounting almost to certainty.

"HISTORY presents noble examples of those who gave themselves up as hostages for their friends; and the inviolable fidelity of the friendships of depraved criminals sometimes commands our admiration. They have been seen to support tortures and brave death, rather than betray accomplices.

"HE WHO FEELS friendship lives for friends, and is happy only in their society; they are his greatest good; he is ever ready to do and sacrifice for them, and expects them to make sacrifices for him. Their happiness and sorrows are his, and his theirs; and he is incapable of feeling envious and malignant towards them. How happy is that family, who at table, and in the social circle, reciprocate this sacred feeling; master, subordinates, and domestics, making the happiness of each others their chief business.

"YET there are those who never experience this feeling, and excuse their cold indifference by a thousand little pretexts. A mild, benevolent man, who is excessively fond of his children, and untiring in nursing the sick, assures me that he does not know what attachment or friendship is; separation by journey or death never causing him the slightest regret.

"SOME ANIMALS herd. The attachment of apes exceeds all idea. One species of parrots always die from separation. Tiger and dog, lion and dog, horse and dog, or two dogs, often become indissolubly attached to each other. A seal I once had a few days became so attached to me that, when I went out, he would make strong efforts to leap from the trough and follow me. Dogs often defend their master to the last, and sometimes die of grief and hunger on his tomb, or of joy at his return. The heart of one such was ruptured. Some never forget, others never care for, their first master. All this, and much more, proves that friendship is a primal Faculty.

"It is stronger in woman than man. Her friendship secures success. Who does not know a thousand cases of her devotion to a husband who has betrayed her a thousand times? No sacrifice is too great for a woman in serving her friends. She penetrates prisons, and throws herself at the feet of her sovereign. Happy is he who has a female friend! It is much larger in affectionate animals and birds than in indifferent species and individuals." — *Gall*.

"MARY MACHINNES, executed in Edinburgh for murder, showed a romantic attachment for her paramour, even on the scaffold. He had sent her a pocket-handkerchief the day before her execution, with his name written on it, and half an orange, requesting that she eat it on the scaffold, in token of their mutual friendship. She held the corner having his name on it in her mouth most of that night, and the next morning, and even on the scaffold, and ate the orange on the scaffold, seem-

ingly forgetting the terrors of death in the ardor of her affection."—*Phren. Transac.*, p. 376.

"ABUSE results from its excessive energy, in over-regretting the loss of friends; and without it men become anchorites and hermits."—*Spurzheim*.

"THOSE in whom it is strong feel an involuntary impulse to embrace, and to cling to any object which reciprocates fondness. It gives ardor and a firm grasp to the shake of the hand, and experiences delight in the return of affection."—*Combe*.

CO-OPERATION for various purposes is its specific function. But for it every man would wander up and down alone, Ishmael like, his hand against every man, and every man's hand against him; without society, without any community of feeling or concert of action, and even without written or verbal language, and consequently destitute of all the pleasures and advantages now derived from conversation, news, papers, sermons, lectures, schools, and the institutions to which they give rise; none caring for any, and all the selfish Faculties of all in perpetual and most violent antagonism, each waging a war of extermination against all; whereas, this Faculty now renders all brotherly towards all, and all disposed to help each. But for it, none would ever join efforts with any others in attaining any common object whatever; and nothing could ever have been done except what one man could begin and finish, nor anything even then except what appertained to himself alone. Families, with all their ties and benefits,⁴²⁷ must have been forever unknown, and the sexes, after sating mere passion, would never again have thought or cared for each other. No railroad could ever have been built, except what one man could construct, equip, run, and patronize from beginning to end, which would be "narrow guage," short, and a losing investment at that; for men would never help, but only hinder, each other in everything; whereas, now all human efforts are co-operative. No manufacturing or commercial operations could ever commence, and must cease instantly, without its aid. Isolated effort could never accomplish anything worth notice. What could the best do, become, or enjoy all alone? All centres, where all go to exchange with all, are its creatures.¹⁶³ This great human fruit-tree has innumerable branches, each full of limbs, and each limb of twigs, each of which bears some deli-

cious and nutritious fruit of human virtue and enjoyment.⁸ To instance a few.

ALL RELIGIOUS organizations, such as sects, general assemblies, bishoprics, synods, churches, Sabbath schools, prayer meetings, circles, sociables, and cliques, are its creation; for without it man might worship a little alone, but none along with any other one. None would meet to worship together, or provoke or inspire each other "to love and good works,"²¹ which would of course kill all propagandism and missionary efforts.

ALL PUBLIC CONVEYANCES must cease without it; for few would care to go anywhere but for its promptings.

ALL THE MECHANIC ARTS, and all combinations where two or more "work together," must be suspended without it. How great would be that hiatus!

ALL SCHOOLS, and literary institutions, societies, and bodies must cease, because it is their bond principle.

ALL CORPORATIONS, railroading, shipping, and that whole range of community of interest and effort, grow out of it, and must stop instantly if it were annulled.

ALL GOVERNMENTS are but its natural outgrowth, as are all laws, legislatures, politics, papers, &c. What a hiatus striking it out would leave! All police and criminal laws are its "handy work for common protection."

ALL LITERATURE is its offspring. Author, publisher, and reader must *combine* in furnishing and consuming any book, getting up any paper, public library, lyceum, and gathering of all kinds. Freemasons, oddfellows, and all like societies are its production.

THESE SAMPLES show how many other useful and all-important human ends are prompted and continued by this great human sentiment, to say nothing of those clubs, neighborhood cliques, partnerships, and a thousand other like human institutions which grow out of this fundamental element. How great, how good a mental "invention" it thus becomes! But for it, man could not possibly exist. In short, —

HUMAN BROTHERHOOD in all things is its specific aim and mission. All men are brothers, but they have not yet learned this great practical truth. All human interests blend in *with* all, instead of any conflicting with any, and *vice versa*. Labor and

capital are mutual friends, not antagonists ; and those who antagonize them hurt both, but workmen the most. The co-operative principle, in which each workman *SHARES in the profits* instead of working for wages, is the true manufacturing policy, except for jobbing work. Workingmen, instead of striking, should join together and hire capital, and every man have his proportion of profits, which will make all anxious to *advance* the work, instead of this present shirking, wasteful indifference. Raising cotton on shares illustrates this idea, and makes every hand eagerly save every boll, because he shares in its profits ; whereas now, what cares *he* how much goes to waste, or how little he does, so that he but gets to-day's wages. This personal *interest* in one's work will at least double its results.

THE COMMON GOOD is also that of the individual. "God hath made of one blood all nations," all persons. Injuring any injures all, and benefiting "one of the least" benefits all. As no leaf can fall in any forest without moving the air where it descends, and this enlarging its circuit till it modifies and affects the entire air, and all the other leaves of that great forest, so whatever promotes the happiness or misery of society's humblest member, thereby and therefore promotes that of his or her immediate circle, and this the circles of each of this circle, till it affects every one in the nation, in the race ; so that injuring any other also injures self. Mankind are not isolated, but embodied. Then let all act to all as he would to himself.

BROTHERLY LOVE thus becomes a genuine human commodity, a fixed fact in mundane affairs, and to be cherished by all, outraged by none. Look and act towards all affectionately.

179.—DESCRIPTION, CULTIVATION, AND RESTRAINT OF FRIENDSHIP.

LARGE—Love friends with the utmost tenderness and intensity, and will sacrifice almost anything for their sake ; readily form friendships, and attract friendly regards in return ; must have society of some kind ; with Force and Destruction full, defend friends with spirit, and resent and retaliate their injuries ; with Dignity moderate, take character from associates ; with Acquisition moderate, allow friends the free use of purse ; but with Acquisition large, will *do* more than give ; with Kindness and

Ambition moderate, and Acquisition only full, will spend money freely for social gratification ; with Dignity and Force large, must be first or nothing ; but with them only average, and large Ambition, Kindness, Conscience, Beauty, and reasoning organs, will have many friends, and but few enemies ; be amiable and universally beloved ; with large Eventuality, will remember, with vivid emotions, bygone scenes of social cheer and friendly converse ; with large reasoning organs, will give good advice to friends, and lay excellent plans for them ; with smaller Secretion and large moral organs, will not believe ill of them, and dread the interruption of friendship as the greatest of calamities ; willingly make any sacrifice required by friendship, and evince a perpetual flow of that commingling of soul, and desire to become one with others, which this Faculty inspires ; with Appetite large, love the social banquet, and set the best before friends ; with Ambition large, set the world by their commendation, but are terribly cut by their rebukes ; with the moral Faculties large, seek the society of the moral and elevated, and can enjoy the friendship of no others ; with the intellectual large, seek the society of the intelligent ; with Expression large, and Secrecy small, talk freely in company ; and with Mirth and Beauty also large, are full of fun, and give a lively, jocose turn to conversation, yet are elevated and refined ; with Dignity large, lead off in company, and give tone and character to others ; but with it small, receive character from friends ; and with Imitation large, are liable to copy their faults as well as virtues ; with Caution, Secretion, and Ambition large, are apt to be jealous of regards bestowed upon others, and exclusive in the choice of friends ; having a few select, rather than many commonplace ; with large Causality and Comparison, love philosophical conversation, literary societies, &c., and are every way sociable and companionable.

FULL — Make a sociable, warm-hearted friend, who will sacrifice much on the altar of friendship, yet offer it up on the altar of the stronger passions ; with Kindness large, will cheerfully aid friends, and have a few warm ones, yet only few, but perhaps many speaking acquaintances ; and with the higher Faculties generally large, will be a true, good friend, yet by no means enthusiastic. The combinations under Friendship large, apply to it when full, allowance being made for its diminished power.

AVERAGE — Are capable of tolerably strong friendships, yet their character is determined by the larger Faculties; enjoy present friends, yet sustain their absence; with large Acquisition, place business before friends, and sacrifice them whenever they conflict with money-making; with Kindness large, are more sympathetic than affectionate, and relish friends, yet sacrifice no great for their sake; with Love large, love the person of the other sex more than their minds, and experience less conjugal love than animal passion; with Ambition large, break friendship when ridiculed or rebuked; and with Secrecion large, and Conscience only average, cannot be trusted as friends.

MODERATE — Love society somewhat, and form a few, but only few, attachments, and these only partial; may have many speaking acquaintances, but few intimate friends; with large Force and Destruction, are easily offended with friends, and seldom retain them long; with large Kindness, will bestow services, and with moderate Acquisition, money, more readily than affection; but with the selfish Faculties strong, take care of self first, and make friendship subservient to interest; with large or very large Force, Destruction, Dignity, Ambition, and Acquisition, will serve self first, and friends afterwards, and form attachments, yet break them when they conflict with the stronger Faculties; with large Secrecion and moderate Conscience, will be double-faced, and profess more friendship than possess.

SMALL — Think and care little for friends; dislike copartnership; are cold-hearted, unsocial, and selfish; take little delight in company, but prefer to be alone; have few friends, and, with large selfish Faculties, many enemies, and manifest too little to exert a perceptible influence upon character.

ITS CULTIVATION is as important as the blessings it confers are numerous and great. The friendless, whether made so by poverty or aristocracy, the latter are far the most numerous, are indeed pitiable; while a cordial, genial spirit is a perpetual feast in itself, and a reliable resource in trouble. God blesses those who exercise, but curses those who ignore it.

ISOLATION STARVES YOURSELF. The terrors of the dungeon are due mainly to its solitude. "As iron sharpeneth iron, so doth the countenance of a man his friend." By a natural law of mind, all action of the Faculties in one awakens them in all beholders.

Dozing stupidly in your room leaves them torpid, while mixing up with others rouses all your passional, moral, and intellectual powers to that sustained activity which develops them for future effort.⁶⁴ Nothing is as fatal as that inertia which comes of loneliness; nor is anything as beneficial or happyfying as that healthy mental stimulus provoked by contact with mankind. That voluntary hibernation created by pride is contemptible in itself, and destructive to its perpetrators. Without this contact, Ambition, Imitation, Taste, Worship, Kindness, Expression, and the whole intellectual lobe must rust out and starve to death with *ennui*. We were created for *society*, and to open wide, not bar and bolt, the portals of Friendship. Misanthropic hermits violate a fundamental law of being, and must suffer the palsyng penalty in that internal desolation which congeals the sweetest emanations of life. Such should see no human soul "till their proud heart breaks." This codfish, stock-jobbing, mushroom aristocracy is despicable anywhere, but in our country, consecrated to equality, really outrageous. Those who cannot conform to the *spirit* of our institutions should "emigrate" to a country consecrated to caste.

CORDIALITY and a hearty, friendly spirit are due from all to all. Travellers, and those thrown together casually or permanently, owe it to each other to "scrape acquaintance" at once, remembering that this inborn Friendship constitutes an open letter of recommendation from our common Father to all His children. Purse-proud dignitaries, pull down those bars of exclusiveness, and "mix up" with your fellows, in place of that cold, solitary, distant, austere, aristocratic spirit! By creating you with this friendly element, your Maker commands its exercise towards all His creatures.

NEIGHBORS should be doubly social and cosey, always exchanging pleasant looks and remarks, and often joining in picnics, parties, social gatherings, meetings of all kinds, and extending hospitalities, visits, &c. Religious meetings thus effect a great good.

FAMILIES should be still more familiar and cosey, and bury rivalries and animosities. Not "business before friends," but friends before business, unless, best of all, business *with* friends. And all business firms should make *friends* of each other first, as their best means of making money. Men reap the merest fraction of the pleasures and profits derivable from this Faculty. Phre-

nologists owe it to our common cause to *embody*, not scatter, our efforts; *unite*, not antagonize; *co-operate*, not oppose.

ANDREW JACKSON became and remained our president by virtue chiefly of his hearty Friendship, which he evinced especially towards young men. This attached them to him, made them work for him like beavers, and set all their friends, and friends' friends, also at work, and this gave that eclat which swept him on and up to the White House, and then re-elected him.

YOUNG MAN, every friend you make will be ever on the alert to *help* you in time of need, when a friend is one indeed; while every enemy will nurture his smothered wrath till a small seed becomes a colossal grudge, and when he finds you in some tight place will take a hundred fold revenge, when you are too busy or powerless to strike back. "Young man?" Why not young woman even more? For if she does not care for the acquaintance of a young man *per se*, yet he might "introduce" an acquaintance of his whose friendship might be very desirable.

SELECT FRIENDS JUDICIOUSLY, and form the best associations possible, yet we should not exclude all those not *just* to our precise liking, and never be unduly led by them. Nor grieve piningly over their traitorous desertion; because this hardens this friendly spirit, and steels it against others.

TO CULTIVATE — Go more into society; associate freely with those around you; open your heart; be less exclusive and distant; keep your room less, but go more to parties, and strive to be as companionable and familiar as you well can; nor refuse to affiliate with those not exactly to your liking, but like what you can, and overlook faults. Familiar weekly circles, parties, and friendly gatherings, where show and fashion are laid upon the shelf, not expensive, little or no eating, composed of intimates and their wives and husbands, with a good sprinkling of young folks, in which all kinds of amusements, games, theatricals, blind-man's-buff, plays, &c., are got up and participated in right heartily, cannot be too highly recommended; nor can picnics, camp-meetings, and all other cordial interminglings of men, women, and children with each other.

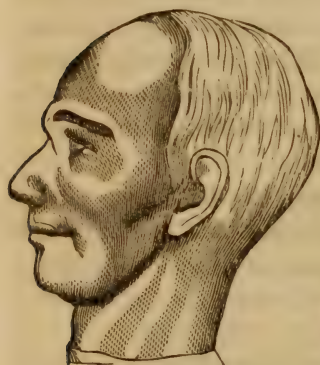
TO RESTRAIN — Go abroad less, and be more select in choosing friends; besides guarding yourself against those persuasions and influences friends are apt to exercise over you, and trust friends less, as well as properly direct Friendship by intellect.

XII. INHABITIVENESS.

180. — ITS DEFINITION, LOCATION, DISCOVERY, AND OFFICE.

THE PATRIOT — Love of *home* and domicile; attachment to the *place* where one lives and has lived, and unwillingness to change it; desire to locate, and remain in one habitation, and to own and improve a homestead or farm; agriculture; love of native town, country, and government; patriotism. Homesickness results from its excessive and morbid action.

INHABITIVENESS LARGE.



NO. 132. — HENRY CLAY, THE PATRIOT.

ITS LOCATION is directly above Parental Love, and partly between and above the two lobes of Friendship, an inch apart. When it is large, and Friendship only fair, the head presents a ridge quite like a flatiron, projecting in the middle, and pointing upwards, yet retiring rapidly; but when Friendship is full, and Inhabitiveness deficient, a marked depression, sufficient to hold the ball of a finger, runs up and down, or rather opens into Continuity, and above and below strikes against Parental Love. In examining children and youth I rarely ever fail

to predicate whether they have always lived in one house, or in two or more domiciles, just by the deficiency or development of this organ; though usually this same deficiency obtains in those whose parents moved within a year or two before the child observed was born, too soon for the parents to become much attached to their new domicile before this one's birth; this deficiency being consequent on either the parental or else juvenile *disturbance* of this Faculty.

ALL MY OBSERVATIONS confirm the accuracy of Spurzheim's location and analysis of this organ and Faculty. I regard it as fully established, and hence will not take further sides in discussing the differences between Gall, Spurzheim, and Combe touching this organ, except to *state* them.

GALL argued that the function in question was a manifestation

of Dignity or domination; that it made proud persons seek personal elevation, and love hills and heights, and those animals in which it was large, as the goat, chamois, eagle, &c., climb and soar high, creating love of elevation; from which Spurzheim dissented, and argued a separate Faculty of Love of Home, as above analyzed; while Combe argued that it gives *concentrated* action to all the Faculties, and called it Concentrativeness. Both Spurzheim and Combe are right, there being *two organs* and Faculties, Inhabitiveness, as above located and analyzed, and Continuity, located above Inhabitiveness, and extending farther outwards, as well as encircling Friendship, and lying under the lambdoidal sutures, shaped quite like a new moon with its horns downward.

ITS ADAPTATION is to human and animal need of a domicile. Parental Love renders it an absolute necessity; for how could young be reared without some *place*, however rude, in which to rear them? How could birds hatch eggs, and brood and feed their little ones without nests? Or canines, felines, &c., breed without a lair? Or human parents care for their infants without some domicile for maternal confinement and infantile sleep and protection against scorching sun and freezing cold, as well as winds, storms, and rapacious devourers.

PARENTS, and indeed all, must of necessity have some place to lay their head at night, and sit at their ease by day, as well as store food, clothes, and creature comforts of to-day not wanted till to-morrow? ¹⁶³ Only those animals which have nothing to store, and whose young are able to "rise and walk" from birth, but need some habitation. The very fish need and have some for their spawn. So much as to a domiciliary necessity.

AS A FACT this home element is almost universal. The very earth has and keeps her own elliptical home around the sun, and every vegetable, tree, and whatever grows has its home in that particular spot of hillside or valley, marsh or sea-bed, where it has planted its roots and built up its superstructure. Even every stone has its home in that sand-bed made by and for itself, or in that ledge of which it forms a part; while every particle of matter, of which all bodies are composed, has its own domicile in that part of this body in which it is stationed. Every blade of grass, every weed, grain, and root, all sea-grass and roots included, have their own home where they grow; every seed in its

own seed lobe, every apple, fruit, and nut, in that place on the branch to which its stem fastens it; while every limb, and twig, and leaf has its domicile where it fastens itself to its parent tree. Every clam and oyster, every turtle and alligator, has its crustaceous habitation in the sea mud where they grow; and every ant in that hillock, or under that stone where it has laid its eggs to be sheltered from wet and kept of equal warmth night and day, by this stone giving off during the night that surplus warmth it imbibed from diurnal sunshine. Serpents have their dens, eels their mud homes, most birds their nests, and all beasts sleeping-places. Wild swine have their quarters, and fowls their rookeries; while foxes, woodchucks, badgers, &c., have their holes, squirrels their "summer residences" in trees, and "winter quarters" in their ground holes, where they store up their winter's supply of nuts. Monkeys have their bush-houses, Indians their cabins, and men their houses. In short, this domiciliary *principle* constitutes a necessary department of Nature, and want of all her productions. Our very clothes are habitations we carry around with us, and their pockets are their closets; while trunks are apparel houses, barns stock and grain domiciles, and the skins and barks of whatever has either, form the home of whatever they enclose. Behold this domiciliary ordinance ascending from every particle of matter along up throughout all forms of life, vegetable and animal, and mounting to the starry heavens, where it gives "a local habitation" to all its shining hosts!

THIS HOME NEED AND FACT, constituting, as it does, a department of Nature, must, of necessity, have its mental *Faculty*, and therefore cerebral organ, to carry forward this great want and instinct, and this *sui generis* class of functions. Inhabitiveness "fills this bill."

GOOD HOMES and their improvement, including domiciliary architecture, naturally come up here for consideration. The building, and especially cheapening of domiciles, is a most important subject. If room remains, Part VI. will develop a plan by which better homes can be "got up" at less than half the cost now usually expended on them. More "progress" is possible in this department than in any other; an outline plan for effecting which we shall give if space will possibly admit; or, if not, shall embody our ideas on the gravel wall, and octagonal form of houses in a separate work.

181. — DESCRIPTION AND CULTIVATION OF INHABITIVENESS. OUR COUNTRY : "REPUBLICANISM."

LARGE — Are liable to homesickness when away from home, especially for the first time, and if Parental Love is large, will suffer almost any inconvenience, and forego bright prospects rather than leave home, as well as remain in an inferior house or place of business rather than change; have a strong desire to locate young, and have a home or room exclusively; leave home with great reluctance, and return with extreme delight; soon become attached to house, sleeping-room, garden, fields, furniture, trees, &c., and highly prize domestic associations; are not satisfied without a place on which to expend this home instinct; with Parental Love, Friendship, Observation, and Locality large, will love to travel, yet be too fond of home to stay away long at a time; may be a cosmopolitan in early life, and love to see the world, but will afterwards settle down; with Ambition and Force large, will defend national honor, praise own country, government, &c., and defend both country and fireside with great spirit; with Beauty large, will beautify home; with Friendship large, will delight to see friends at home rather than abroad; with Appetite large, will enjoy food at home better than elsewhere, &c.

FULL — Prefer to live in one place, yet willingly change it when interest or the other Faculties require.

AVERAGE — Love home tolerably well, yet with no great fervor, and change the place of abode as the other Faculties may dictate; take some, but no great interest in house or place, as such, or pleasure in their improvement, and are satisfied with ordinary home comforts; with Acquisition large, spend reluctantly for its improvement; with Construction moderate, take little pleasure in building additions to home; with Observation and Locality large, love travelling more than staying in one place, and are satisfied with inferior home accommodations.

MODERATE OR SMALL — Care little for home; leave it without much regret; contemplate it with little delight; take little pains with it; and with Acquisition large, spend reluctantly for its improvement; with large Parental Love and Love, will think more of family than house, and feel little and show less love of home as such, and be as contented in one place as another.

OUR COUNTRY is a stupendous affair, glorious beyond description, and worthy our whole heart's homage. Governments are an outgrowth of several Faculties — Inhabitiveness, which loves home and country; Friendship, which loves to unite; Caution, which seeks, and Force, which gives, mutual protection; Dignity, which commands; Ambition, which loves office; Devotion, which obeys; Order, which regulates all by-laws, &c. All men always have had, will have governments of some kind, because they are the expression of primal Faculties.

DIFFERENT PEOPLES need different governments. Fierce savages need and seek a strong, absolute government, because they internally feel their need of restraint, and therefore seek it in monarchy. Yet, in proportion as their upper Faculties develop, they become a "law unto themselves," and all put themselves voluntarily under the restraints of laws and punishments. But in a perfect human state, the moral and intellectual Faculties will so far control each and all that none will need restraints, nor penal codes, nor criminal lawyers, judges, police officers, prisons, &c. Still, for that "good time coming" men must wait.

EXPERIMENT must determine when peoples are yet sufficiently advanced to rule themselves; but instinct also aids this solution; for in proportion as men become *fitted* for self-government, they *love* and *seek* it, and hence "break every yoke," and institute free governments. That our Pilgrim "Forefathers" *loved* liberty, and made such sacrifices to free themselves from British taxation, only showed their moral advancement and elevation. In proportion as Conscience is developed, it will neither *do* wrong, nor *submit* to it.

I LONG FEARED a relapse of our government into a ballot-box despotism, in which "roughs" would control city and national governments, and vote all they liked out of rich, industrious pockets, into poor and shiftless ones, as in New York City, under Tweed & Co.; the more so since I saw that baneful example spreading, and "rings" forming everywhere. But the breaking up of that and the Erie rings only foretokens the extermination of *all* rings for all selfish purposes. Only *pro bono publico* "rings" can ever endure long, because men love themselves too well to allow themselves to be robbed any longer than till they see and can reach the robbers. All abusers of office and power thereby

oust themselves as Tammany has just done. Men love right, and hate wrong, and will "go for" all wrong doers. Human nature is thus constituted.

IN 1848, when New York State voted "license" or "no license," I saw what till then I had doubted, that the moral and intelligent portion of community held the reins when they chose to say so; and again, when in 1864 a great people, by an overwhelming majority, voted money and blood to preserve the nation inviolate, rather than spare both by allowing separation, I saw that genuine *patriotism*, that supreme human virtue, held the reins of this great country. What moral grandeur and sublimity were embodied in that trying vote, that pivot in our country's destiny!

WHAT DIGNITY, what power, what moral grandeur inhere in every presidential election! Think of the *mind* it embodies! All voters have read, heard, and thought out each side, and chosen one. And their vote means the underlying determination to *support* the rule of the majority. A great people speaks in its collective capacity; and speaks to be heard and heeded. And all ballot-box trifling will soon hurl its abettors from power, as will all corruption, all wrong doings. Since New York City can out-vote all *her* "roughs," surely all other places can theirs. You who want a *long* lease of power, see that you merit it.

REPUBLICAN SUPERIORITY over other forms of government consists in this simple principle—the greatest good of the greatest number; while all arbitrary governments are based in the supreme good of the few, and servitude of the many. All exclusive privileges must be swept away. The "public good" must be the supreme law. Even the self-interest of each requires this.

ONLY IN REPUBLICS can humanity grow and develop itself. When I am in the Provinces young men consult me about going to the States, alleging that routine, red tape, and privileges prevent all rise by merit, and they are bound to go where worth can claim its reward. England will soon throw off her aristocratic incubus, and be republicanized. Italy should have adopted a republican form of government, and will yet. Thiers may block the wheels of popular government for a time, but they will crush him unless he helps, not hinders, the republican movement. Germany is virtually republican now, and will become more so; and Austria is taking long and rapid strides by way of relinquish-

ing feudal privileges, and serving the mighty many, not the aristocratic few.

OUR OWN COUNTRY must improve immeasurably faster hereafter than heretofore, because the *whole* people are now at work each for *himself*. That simple principle is the mainspring of our national prosperity. Men will work and earn for *self* voluntarily,¹⁶² when they would not lift a finger from compulsion by and for others. In that fact lies our strength.

ONE ERROR underlies our institutions — that an illiterate, drinking, loafing vagabond, who pays no taxes, and has nothing at stake, has just as much voice in public affairs as Astor or Stewart, who pay a hundred thousand, and are intelligent and moral. Every man should have one vote, yet certain conditions, as in a stock company, should entitle to an additional.

MY COUNTRYMEN, we have incomparably the best government on earth, because it gives us the most good for the least cost. The mere salary of Napoleon the usurper was *two hundred* and twenty times greater than that of our President; besides all his palaces being supported, and his retinue of harpies plundering by wholesale; and the Royal Family of Great Britain consume untold amounts of the people's earnings; all of which is unknown in our country.

OUR GOVERNMENT HAS ERRORS, but it contains the elements of its own renovation. This will soon be much more apparent than it now is. It sets the people to *thinking* and talking. Just think of every presidential election as a discipliner of the public mind, calling out all the speaking, and listening, and reading talents of the whole people, and thus developing their mentalities! God wrote Republic into human nature only to grow and glow with time.

OUR MATERIAL PROSPERITY IS GENUINE, not fictitious; inheres in our institutions, and will soon make all pecuniarily independent, and thus turn public attention into higher channels.

EMBODIMENT, or co-operation, is its basis, and must give it prosperity, because it fulfils a natural law, which isolation violates.¹⁷⁸ A Nova Scotia ex-prime minister said, —

“PROFESSOR FOWLER, I envy you your national birthright. You belong to a great people; and this commands respect. I, though ex-prime minister, and duly authorized to negotiate our Nova Scotia railroad bonds,

went to England for that purpose. In offering them, rich, intelligent bankers would say, 'From Halifax; Nova Scotia bonds. Really, sir, excuse me, but I do not know where Nova Scotia and Halifax are;' whereas, if I had been from the States, 'An American: sit down, sir. We will consider your application.' But I am only a Bluenose."

STATES-RIGHTS is but another phase of isolated action. If states may act singly, so may counties, towns, and persons. This resolves society back to its primal state, and virtually disbands governments; whereas, centralization is but that co-operative, embodying principle applied to governments which we have already applied to commerce, &c.¹⁶³ God wrote co-operative, not isolated action, into the human constitution. This states-rights doctrine, if applied to war, would put each to fighting on his own hook, and destroy all idea of an army acting as a whole.

PATRIOTISM is a human virtue second to none; while traitorism is a vice unparalleled; for it aims at the life of a whole people, in place of an individual. Let us duly estimate the many and great blessings we perpetually enjoy at the hands of our fundamental principle, "the majority shall rule." Wherein it is yet imperfect, let us try to improve both the fundamental law, and its practical workings; but at least *love* our country and them.

LOVE ONE ANOTHER. Members of the same government naturally like each other when they meet abroad; then let us cherish this fraternal spirit at home. Let us make common cause, cultivate community of interests, and love and sacrifice for our common country; for we have one worth living in and dying for.

XIII. CONTINUITY, OR "CONCENTRATIVENESS."

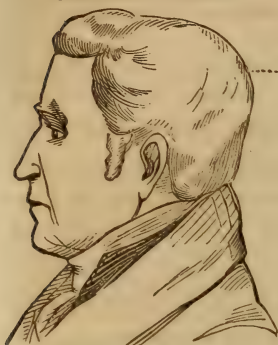
182. — ITS DEFINITION, LOCATION, ADAPTATION, &C.

THE FINISHER — Application; unity; completeness; consecutiveness; connectedness; prolixity; amplification; fixedness of attention; a plodding, poring disposition; desire to do but one thing at once, and finish it up before leaving.

IT IS LOCATED above Friendship and Inhabitiveness, and forms a semicircular arch over them. It is right under the lambdoidal sutures. It was remarkable in both the head and character of that great Hebrew scholar, Rev. Dr. Bush.

THE RULE FOR FINDING it is : placing the left hand on the forehead to balance the pressure, spread your right thumb and second finger an inch and a half apart, place them on Friendship, and rubbing them up and down an inch or so, as far as it is deficient it leaves a hollow, shaped like a new moon, horns downward, which your thumb and finger cross ; but when it is full or large, no such hollow is perceptible. Or, placing your first, second, and third fingers close together, put the middle one on Inhabitiveness, the first and third will be on the two lobes of Continuity. Now carry your fingers up and back, and if they cross a depression this organ is proportionally deficient, yet its full development creates no swell, but only evens up that part of the head.

CONTINUITY LARGE.



No. 133.—REV. DR. BUSH.

A BONY EXCRESCENCE formed by the junction of the lambdoidal sutures sometimes reaches up to it, which makes it seem smaller than it is.

SPURZHEIM AND COMBE DIFFERED as to the precise analysis of this Faculty. Gall does not mention it. Spurzheim located Inhabitiveness only at this point, but ignored Continuity ; while Combe ignored Inhabitiveness, and substituted this organ ; whereas, I find *both* correct, by there being two organs. Its discovery is due to Combe ; yet he seems not to have given it its best and most expressive name. He calls it Concentrativeness, I call it Continuity ; yet our views of this fundamental power differ little if any. One may concentrate all his powers for the moment, when this organ is small, yet not *continue* them long at a time, while one may continue without concentrating them. To *continue* our feelings and intellectual operations to completeness, till the last finishing touches are added, is its primal office.

“A CEREBRAL CONVOLUTION in each hemisphere runs along the top of the *corpus callosum*,³⁷ from Concentrativeness and Self-Esteem to the intellectual lobe ; and is in connection with several other organs of the propensities. Several years after these views were first published, M. Solly demonstrated in a prepared brain that these convolutions contain bands of longitudinal fibres, connecting the anterior, posterior, and middle lobes of the brain. Observation proves that it is a distinct organ

“SOME can detain their feelings and ideas a long time, giving them

the quality of continuity;* while others experience great difficulty in detaining so as to examine and compare them, and hence cannot take systematic views of things, for want of concentrating their powers on one point. I find this organ large in the former, but small in the latter. Some in conversing naturally fall into a connected train of thinking till they have placed it clearly before the listener's mind; in such this organ is uniformly large. Others shift from topic to topic, regardless of their natural connection, leaving no distinct impression; in such this organ is small. A lady first suggested this idea. It gives continuity to feelings and ideas. The power to give continuity to emotion and intellectual conception was a striking feature in the minds of the late John Kemble and Mrs. Siddons. During long and solemn pauses in their declamation, their audience saw the mental state prolonged over the whole interval, which added to the depth and intensity of the effect." — *Combe*.

"If we consider the human mind, we find it unlike a wind musical instrument, which loses its sound when the breath ceases, but like a stringed instrument, the vibrations of which remain, but gradually and insensibly decay." — *Hume*.

"LOOKING at a volume on my table recalls to mind the friend who gave it, and remembering him suggests his family; the evening I spent with them; the subjects of our conversation, &c. The conception of my friend may continue, mingled indeed with various conceptions, as they rise successively, but still co-existing with them.

"WHEN we sit down to study a particular subject we must have a certain conception, probably dim and shadowy concerning it, which suggests another, and this a third, which had no reference to the first; yet the fact is, we often occupy hours without any deviation from the original design, all arising conceptions being more or less intimately related to the subject." — *Dr. Thos. Brown*.

"WHEN a subject associated with strong emotion takes possession of our minds, we find ourselves incapable of banishing it from our thoughts, even though very desirous of doing so. The uninterrupted sustaining of the attention which constitutes continuity depends upon this property of giving continuance to thought and feeling. It is a law of thought that any feeling or conception naturally calls up others of this same class. Ideas of Causality call for the other ideas of it, and emotions of Kindness or Destruction are each followed by like feelings, which thus re-act upon and re-increase the original one. Large Caution, with deficient Hope, gives a *permanent* tinge to all the mental operations. Every sentiment thus casts its own peculiar light over the whole mind, and the objects beheld reflect that light—the splendor of joyous feelings, and the sombre illusions of melancholy alone upon the mind.

"WE occasionally find persons with large reflecting organs who are little given to sustained reasoning. Their intellectual perceptions are strong and rapid, and momentarily brilliant, but the energy ceases as soon as its impression is felt by the auditor, but never prolonged. They came to their conclusions at a bound, not by ratiocination. Whatever can be seen at a glance or two, they perceive, and often with much perspicacity and originality, but they fail in whatever requires the inves-

* Readers will please observe that Combe uses "continuity" repeatedly in describing this Faculty.

tigation of abstract principles or logical deductions. They are better orators than writers, and in conversation than either. Perhaps they argue well in controversy, because the successive replies of debate break the reasoning into steps, and always present some new point for immediate judgment, all consequent on a deficiency of this Faculty.

"OTHERS, with rather poor intellects, are great dabblers in argument, and perpetually skirmishing and hair-splitting on their favorite opinions. Such have it large.

"WHEN LARGE, and joined with large Causality, the power and philosophy of reasoning appears in its greatest perfection. The mind possesses large intellectual resources, and makes the most of them by collecting its conceptions into a strong mental picture, and conveying them with the full force of a sustained presentation. This intellectual picture is enlarged in its dimensions; more completely filled up with related conceptions; has its lines more strongly drawn; and there is a more comprehensive view of its multiplied connections." — *Ed. Phren. Jour.*

IT IS ADAPTED to man's perpetual requisition for continuing all he begins till it is completed. Fragments are of little account in anything. One wants not one square rod of ground here, and another yonder, but all *together*; nor a good strong thought now and then on *different* subjects, but requires to *embody* those analogous to each other by themselves into a speech, sermon, or book. Nature always groups analogous things by themselves, and man, of course, needs some Faculty to perceive and apply this classification. And in book-making and reading we prefer one book on Anatomy only, another on Theology alone, a third on "Human Science," not a hodge-podge conglomeration of all kinds of unasorted thoughts and facts on diverse subjects, flung together at random. Fables are good, though isolated, but they must be assorted. Nature always groups analogous things together, and man needs some Faculty adapted to her classifying principles.

"THEN why is it placed among the feelings? and why not among the intellectual organs, where it so obviously belongs?" Because

IT BELONGS WITH THE FEELINGS the most. The intellectual operations need sustained consecutiveness much, but the feelings by far the most. Inhabitiveness especially demands a continuous residence in one place. "Three moves are as bad as a fire." We need to improve our home by permanent fixtures, such as trees, fences, flowers, cistern, and a thousand like things, to enjoy which we require to *remain* stationary in the same spot a long time — all our lives for that matter.¹⁸⁰

FRIENDSHIPS need to be consecutive in liking the *same* persons, instead of making and breaking a new friendship every day or hour.

PARENTAL LOVE especially requires its aid. A darling infant left uncared for only a short time perishes. That care, to be effective, must be perpetual, not fitful. Parents must *continue* to love their children till they are matured; and must have this continuing Faculty which enjoys this perpetuating necessity.

LOVE, however, best illustrates this continuous necessity. Its office is to create offspring; but we have already seen the need of all who begin to love *continuing*, at least till all their young are reared. And pure love *does* so continue. Only sensuality is fitful, yet this would give only very poor offspring; while producing good ones requires love, as is fully proved in "Sexual Science." Yet how could Love be continuous without a continuing Faculty? All are perpetually conscious of continuous mental action in ten thousand forms, but most in love. How extremely difficult, notwithstanding the most powerful motives, to tear one's affections from one beloved! Its being placed right *over* and partly surrounding this social group which so imperiously demands its action, is at least appropriate and philosophical.

ALL WE DO demands this finishing up element. A neighbor always did everything "jist fur now," and was, consequently, perpetually doing over and over again what doing it *for good* would have rendered unnecessary. "What is worth doing at all, is worth doing *well*," is but its instinctive action.

OUR STEPS must all be consecutive, and directed one way, not one step this way and another that, or one East, the second North, third West, fourth South, and all isolated, but each after its predecessor, and before its successor, and all directed to one point.

ALL OUR MOTIONS, doings, feelings, intellectual operations, researches, in fact everything mental and physical, demand it. How could a sowing farmer reap unless he waited, watched, and tended his crops, and was on hand to gather them at the right time? How could man or beast feed themselves by detached mouthfuls? How could a writer convey ideas unless his words followed each other in that order which conveyed his meaning? How could we see much unless we *fixed* our eyes on what we would inspect? How could we breathe by fits and starts, or without continuing from birth to death? And thus of digestion, circulation, &c.

THESE ILLUSTRATIONS suggest enough other analogous ones to

convey a definite idea of the office of this Faculty, its uses, the part it plays in the natural and human economies, and its mode of cultivation. Trees, and whatever grows, must have it. Large trees must *continue* to be where they have been. Sun and seasons, day and night, must be consecutive. This is as much an element of Nature as it is a Faculty in man.

183. — DESCRIPTION AND CULTIVATION OF CONTINUITY.

LARGE — Fix the mind upon objects slowly, yet cannot leave them unfinished; have great application, yet lack intensity or point; are tedious, prolix, and thorough in a few things, rather than an amateur in many; give the entire mind to the one thing in hand till it is finished; complete at the time; keep up one common train of thought, and current of feeling, for a long time; are disconcerted if attention is directed to a second object, and cannot duly consider either; with Friendship large, pore sadly over the loss of friends for months and years; with the moral Faculties large, are uniform and consistent in religious exercises and character; with Force and Destruction large, retain grudges and dislikes for a long time; with Beauty, Comparison, and Expression large, amplify and sustain figures of speech; with the intellectual Faculties large, con and pore over one subject of thought or study, and impart a unity and completeness to intellectual investigations; become thorough in whatever is commenced, and rather postpone until sure of completing. Do well one thing at once is its and the true motto.

FIRMNESS gives perseverance in general plans, opinions, &c., while this organ is adapted to the minor operations of the mind for the time being. Without it the mental operations would be extremely imperfect, deficient in thoroughness, and too vapid and flashy; yet its absence may be advisable in some kinds of business, as in the mercantile, where so many little things are to be done, so many customers waited upon in a short time, and so much versatility of talent is required.

FULL — Dwell continuously upon subjects, unless especially called to others; prefer to finish up matters in hand, yet can, though with difficulty, give attention to other things; with the business organs large, make final settlements; with the feelings strong, continue their action, yet are not monotonous, &c.

AVERAGE — Can dwell upon one thing, or divert attention to several, as occasions require; are not confused by interruption, yet prefer one thing at a time; with the intellectual organs large, are not smatterers, nor yet profound; with the mental Temperament, are clear in style, and consecutive in idea, yet never tedious; with Comparison large, manufacture expressions and ideas consecutively and connectedly, and always to the point, yet never dwell unduly.

MODERATE — Love and indulge variety and change of thought, feeling, occupation, &c.; are not confused by them; rather lack application; with a good intellectual lobe and an active Temperament, learn and do a little about a good many things, rather than much about any one thing; think clearly, and have intensity of thought and feeling, yet lack connectedness; with large Expression and small Secretion, talk easily, but not long at a time upon any one thing; do better on the spur of the moment than by previous preparation; and should cultivate consistency of character and fixedness of mind, by finishing whatever is once begun.

SMALL — With Activity great, commence many things, yet finish few; crave novelty and variety; thrust many irons into the fire; lack application; jump rapidly from premises to conclusions, and fail to connect and carry out ideas; lack steadiness and consistency of character; may be brilliant, yet cannot be profound; humming-bird like, fly rapidly from thing to thing, but do not stay long; greatly prefer short paragraphs, prayers, sermons, speeches, &c., to long, and the off-hand to the thorough; have many good thoughts, yet they are scattered; are restless, and given to perpetual change; with Activity great, are composed of gusts and counter-gusts of passion, and never one thing more than an instant at once; and talk on a great variety of subjects in a short time, but fail sadly in consecutiveness of feeling, thought, and action. An illustrative anecdote: An old and faithful servant of a passionate, petulant master, finally told him he could endure his testiness no longer, and must leave, though with extreme reluctance. "But," replied the master, "you know I am no sooner angry than pleased again." "Ay, but," replied the servant, "you are no sooner pleased than angry *again*."

TO CULTIVATE — Dwell on, and pore over, till you complete the thing in hand; make thorough work; and never allow your

thoughts to wander, or attention to be distracted, or indulge diversity or variety in anything.

TO RESTRAIN — Engage in what will compel you to attend to a great many different things in quick succession, and break up that prolix, long-winded monotony caused by its excess.

AMERICANS evince its almost total deficiency, and accordingly, in ninety-nine in every hundred it is small. This error is enhanced by our defective system of education in crowding so many studies upon the attention of children and youth per day. In our common schools, a few minutes are devoted to reading, a few to spelling, a few more to writing, arithmetic, &c., all in half a day. By the time it has brought the Faculties required by a given study to bear upon it, so as to do them good, the mind is taken off, and the attention directed to another study. Hence Americans are proverbially superficial. They are content with obtaining a smattering, running knowledge of many things, yet rarely go below the surface. A bird's-eye glance satisfies them. This is wrong. When the mind becomes engaged in a particular study or train of thought, it should be allowed to remain fixed without interruption until fatigued. Only one, at best two studies, or subjects, should be thrust upon the mind in a day. One should be made *the* study, and others recreations merely. Make thorough work of one, and then of another.

THE ASPIRING SENTIMENTS.

184. — THEIR NECESSITY, ADAPTATION, &c.

EXCELSIOR is the watchword of Earth, and all her inhabitants. Of this FACT in human life we have already spoken.⁶² We now come to its analysis.

AIMING HIGH is the first and a necessary step in shooting high. *Looking* aloft is the necessary precursor of going aloft. Desiring a thing is first and indispensable to its attainment. Personal aspiration is the paramount means of personal elevation. But for some ever-working instinct to perpetually goad them up, men, like clams, would ever have remained as low down in the creative scale as they were born; whereas, they are, and ever have been, aspiring higher and growing better, as all history attests. And

this must continue till they become as perfect practically as they are constitutionally, which will be much more so, and in very many particulars, than now. His natural destiny is superlatively exalted, and far above our most glowing imaginations. Yet in order to attain this exaltation, to rise at all, or even to retain the elevation in which he was created, he must have this aspiring, self-exalting group of Faculties. At least he has them.

GOVERNMENT is a human necessity. The advantages attained by national, state, county, city, and town governments are too numerous and apparent to need mention. But family government, discipline, subordination, authority, and obedience are even more indispensable, and secured by these Faculties.

SELF-CONTROL is even more important. One may often wish to do what it would destroy him to do. On the open ocean, in a life-boat, without water, and perishing for want of it, though it is all around, and you feel powerfully tempted to sate your raging thirst with sea water; yet you know if you do, you redouble your parching agony, and shorten your life. You now need some all-potent will power to restrain yourself; and here it is. Life is brim full of temptations to be resisted, and things necessary to be said and done, contrary to our existing inclinations. We often have to work when we would not, but that some powerful motive prompts and impels it.

FOREIGN INFLUENCES must often be resisted, else others will keep us always grinding their axes. These Faculties enable us to resist outside importunities, say "No," and elevate ourselves.

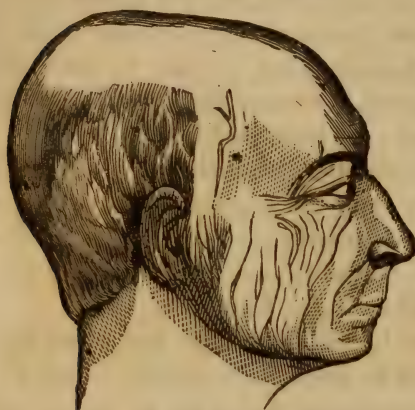
ETERNITY awaits us; and this exaltation must develop in the individual, as well as in the race. Man could not improve beyond the grave unless he had this innate desire to improve here. He does thus aspire, and by means of these Faculties.

THEY ARE SELFISH. Their object is the individual; and yet they appertain to a higher order of ends and attainments than those propensities just analyzed.¹⁶² Those appertain to our personal, physical, animal wants and requisitions; these to society, and its inter-relations.

THEY ARE LOCATED higher up than the passions; are situated in the back and upper portion of the head, or at its crown; are placed over the social group, without which there could be none to command or obey; border on the moral organs, thus signifying

that they help them elevate and moralize mankind; are adapted

SELFISH SENTIMENTS LARGE.



NO. 134. — A CONCEITED SIMPLETON.

to man's erect stature, and dispose him to stand, instead of crawling, and play a most eventful part in human history, and in every individual life.

THEIR PREDOMINANCE sets the head well up, and back at an angle of about forty-five degrees. It is large in the Conceited Simpleton, the Proud Youth, Dr. Caldwell, Henry Clay, and Judas; but small in Humility.

XIV. CAUTION, OR "CAUTIOUSNESS."

185. — ITS DEFINITION, LOCATION, ADAPTATION, &C.

THE SENTINEL: Carefulness; solicitude; prudence; anxiety; watchfulness; circumspection; apprehension; irresolution; indecision; security; foresight; protection; provision against possible want and danger; pusillanimity; foreseeing and avoiding prospective evils; discretion; care; procrastination; vigilance; suspense; the watch-crow.

ITS EXCESS AND PERVERSION create fear, terror, fright, panic, despair, and stupefaction.

ITS LOCATION is at the upper and lateral portions of the side head, and the easiest found of all the organs. It is just about in the centre of the parietal or wall bones of the head. A simple yet sure rule for finding it is this: Starting at the middle of the back part of the ears, or their posterior margin, draw a perpendicular line, when the head is erect, straight up to where the head begins to slope back in forming its top, and Caution is located just on the first turn. It, with Secretion, are large in Mr. Sly, who admirably expresses the natural language of both these organs, and in Deacon Seth Terry, of Hartford, Conn., a remarkably careful man, but deficient in that bold, daring, even rash

warrior, Charles XII., King of Sweden. In almost all Caucasian heads it is far larger than in any others except Africans, though

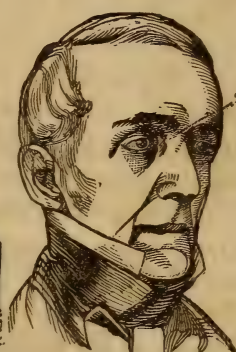
SECRECY AND CAUTION LARGE.

LARGE.

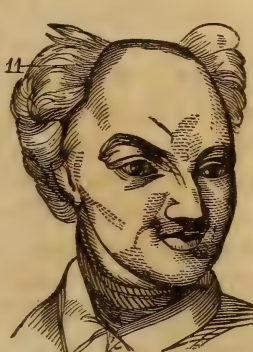
SMALL.



No. 135. — MR. SLY.



No. 136. — DEACON SETH TERRY.

No. 137. — CHARLES XII.
OF SWEDEN.

it is also large in Indians. It is much larger in woman than in man, doubtless because she requires more of it in the care of her infant than he, and because she instinctively saves herself and children by timely and stealthy flight, while man stands at bay, and fights his antagonists sturdily. It is much less in Orientals than Occidentals; and one of the nuisances of running a railroad in India is their carelessness in sitting upon the track till knocked off by the engine.

ITS LOCATION is especially noteworthy, as promotive of its functions. It is placed nearly over the centre of the animal group, in order that it may work with them in guarding our organic nature and functions against external injury; corners on Acquisition, that it may help store up, so as to be safe from dietetic wants; touches Secretion, that it may save by hiding, as do most otherwise defenceless animals; adjoins Force, that it may commingle prudence with courage, and even employ rash and desperate measures for self-protection, and that of life; corners on the social group, so that the family may be special objects of solicitude and provision; lies broadside to Ambition, that it may guard character and standing with the utmost solicitude by a proper, popular life; and to Conscience above, that it may make us doubly careful to do right, and fearful lest we do wrong; and borders on both the moral and the aspiring groups, that it may

better promote these great ends of human existence. Is not this location both inimitably beautiful and perfect *per se*, and pre-eminently promotive of several of the great pre-requisites of life!

GALL discovered it in the heads of a prelate and a magistrate, who were both remarkable for this trait of character. The prelate was so slow and cautious, so guarded and qualified in all he said, as to exhaust Gall's patience, and make his sermons disliked, because so afraid of saying something definite and pointed; besides preparing with infinite precautions for the most insignificant undertakings, and subjecting everything he did and said to the most rigid examination; while the magistrate's indecision had given him the nickname of *Cacadubio*. At a public school examination they sat side by side, and he right behind both, so that he could scan their bald heads at his leisure.

"WHAT particularly struck me was, that both heads were very broad in their upper, lateral, and hind parts. This extraordinary breadth, coinciding with the particular character of these two men, whose qualities and Faculties were very different, and who resembled each other only in their circumspection, and in this conformation of their heads, suggested to me the idea that irresolution, indecision, and circumspection might be connected with this large development of the brain. In a short time, my own reflections, and the new facts presented, converted my presumption into certainty.

"SEVERAL of my brothers and sisters were from infancy short-sighted and fickle, while others were cautious and considerate. I found a like difference in my schoolmates, acquaintances, and friends; and pursued my observations in a great number of families of the highest and lowest conditions; and invariably found some short-sighted, noted for levity and gayety, rashness and impulsiveness; the others considerate. The former are always impetuous, hazardous, and unfortunate; hurting themselves, breaking dishes; losing their money by neglecting to take proper security; letting children fall into water, by not properly guarding it, &c.; while the latter are always on their guard; anticipating chances of failure; asking advice; never breaking anything, or cutting themselves with edge tools, though always using them; never losing money; always criticised for their forebodings and precautions; and asserting that ninety-nine misfortunes in every hundred are our own fault; and hence, always guarding everything.

"A LARGE development of these convolutions raises the superior-posterior outer portion of the parietal bone into a lateral prominence, so that, to the eye and touch, the head presents a very broad surface in its superior-posterior lateral region. On the contrary, it will be narrow in this region, when this organ is moderate; as in heedless, inconsiderate, precipitate persons, beggars, and the visionary. I found it large in two bankers, brothers, who gave excellent advice; engaged in no commercial enterprise without considering all the possible chances; and

managed their bank with extreme prudence. I have never found a skillful physician without its marked endowment. Patients with it very large think it a bad sign if the doctor calls often, and neglectful if he don't. The two patients, who, though well off, were afraid they might die of hunger, had it large; and one who broke up his air-gun, lest if any one should be shot his house might be searched, and he charged with it; who sat up most of the night and kept examining his door to see if he had locked it, and his papers, for fear they might be stolen, had not only a very broad head, but on each parietal bone a prominence projecting out like the segment of a sphere, and denoting an extraordinary development of the subjacent cerebral part. Most melancholic patients present this organization. I have a list of eleven hundred and eighty suicides, of whom five hundred and twenty-six were melancholic.

"I HAVE always admired Nature's greater preservation of females than males, by giving them the most circumspection.

"I HAVE killed twenty squirrels without killing one female, though out of their maternal season. In forty cats caught in my garden, only five were female. Among five hundred bears killed in two counties in Virginia, only two were females. Eighteen hundred and ninety males to five hundred and twenty-two females were killed. Chamois goat-leaders are always females. One of my female mongrel birds, once caught by going from the aviary into the cage, could never be induced, even by protracted hunger, again to enter it." — *Gall*.

"A GEORGIAN merchant did not give credit to my being a Turk; cross-examined me suspiciously; desired to look at my head; decidedly pronounced it that of a Christian, which he said is *broad behind and flattened out at the crown*." — *Foster*.

"THIS organ is almost uniformly large in children, and hence develops earlier than many of the other organs. This is a wise natural provision, as it is never more indispensable to individual safety than during helpless childhood. Children in whom it is small will be hapless. Fifty keepers will not supply the place of its instinctive guardianship.

"ITS NATURAL LANGUAGE, when predominant, opens the eyes wide, turns the head horizontally from side to side, and often looks all around." — *Combe*.

"WE often meet with individuals who are naturally timid, fearful, and undecided; while others act promptly. Many children are very timorous, and easily frightened. Females are more careful than males. Finally, whole species, and different individuals of the same species, evince different degrees of shyness. This feeling must, therefore, be considered as fundamental.

"WHEN treating of Combativeness, I said that anxiety and fear could not result from want of courage, but must be positive affections of some Faculty. In my opinion this is it." — *Spurzheim*.

GALL argued that fear was a negative quality, produced by an absence of Courage; Spurzheim, that it is a positive affection of Caution. Spurzheim is obviously in the right.

ITS PHILOSOPHY or necessity is perfectly apparent. It so is that all formative materials must be transported in a fluid state, and harden after they are placed.¹²⁰⁻¹²⁹ This necessitates their protection against external injury while hardening. Thus, how could sap harden into wood or honey feed seeds, unless meanwhile guarded, one by bark, the other by seed lobes. All nuts are protected, and that pulp of all fruits which we eat is but the overcoat of their seeds, to keep in heat and moisture. Whatever is, has a skin, or bark, or shuck, or bran, something to protect it; and man employs clothes, houses, fires, &c., to subserve a like protecting purpose.

ALL ANIMALS guard themselves, some by flight, crustacea by their bony encasement, others by their very thick hides, and some by stings, teeth, claws, poison, as in venomous serpents, &c.; others by secrecy, or stirring abroad only in the dark, as bats and owls.

THE VERY HARDNESS of stone, wood, iron, and whatever is hard subserves this same cautionary purpose — preserving it from disintegration. The hardness of wood is to protect the tops and fruits of trees from destruction by falling; and the enlargements of all bones at their joints have for their object both to fend off injuries, and guard the interior hinging parts from external injury and internal frangibility.

WHAT IS HAIR but a protection of that delicate gelatinous structure, the brain, against overheating in summer and freezing in winter; against this rude blast, and that hard, brain-addling knock? Additional cerebral protection is awarded to the brain in a very thick skull, hard to penetrate, and often in horns which protect the brain by their roots, and hook off injuries.

THOSE GRISTLY CUSHIONS at all joints from heels to head, including that cutaneous cushion on the bottom of the heels, keep, break, and deaden all sudden jars and falls; thus neutralizing them before they reach the brain, else they must disorganize its gelatinous structure.³⁷ The very spherical form of all heads, bones, trees, grains, seeds, fruits, nuts, &c., is a self-protecting form, and the cylindrical form adopted where elevation is needed, as in stalks, trees, man, &c., or length, for locomotion, as in serpents, fishes, felines, &c., is but this spherical form stretched out. Our very nails are but protections from injury of digital and pha-

langeal extremities, as are those numerous metacarpal bones in hands and feet, which allow motion, yet secure strength. How wonderfully those delicate organs, the eyes, are protected by their shape, location, sockets, eyelids, even lashes and winking, obviously because so useful, yet injurable, that they need and have this extra guarding. Teeth are protected by enamel, tongue by teeth and mouth, heart, lungs, and visceral organs by ribs, spinal marrow by backbone, and everything by some means. In short, —

NATURE GUARDS most assiduously all she makes against all internal dissolution, and external injury, by devices inconceivably multifarious and ingenious. This precautionary *necessity* is apparent.

SOME CAUTIONARY INSTINCT to seize upon and apply these natural precautions becomes a necessity, else this element must needs remain forever unused; so that all things would be guarded merely by passive protection, none would guard *themselves*; whereas, *self*-protection becomes an additional necessity. Thus, though the semi-fluid brain is protected by its hard skull, spherical form, &c.; yet unless man superadd an internal instinct to dodge impending blows, foresee dangers and flee therefrom, and shrink back from injuries of all kinds, all these natural protections would go for nought. This guarding element must extend to the mind. As we must have eyes to put us in relation with light, and dispose and enable us to use it in seeing, so we must likewise have some mental *element* to put us in relation with all these cautionary provisions of Nature, and enable and dispose us to use them in effecting this needed and designed protection. Please note the paramount natural necessity for both safety itself, and a mental Faculty for employing it.

CAUTION supplies this want; is adapted to this need; executes this function; and subserves this purpose. None of us, nothing, could live long without it. It forms a constituent element of Nature herself, and of all her products.

186. — DESCRIPTION, CULTIVATION, AND RESTRAINT OF CAUTION.

LARGE — Are over-anxious; always on the lookout; worried about trifles; afraid of shadows; forever getting ready, because

so many provisions must be made; lose by procrastination what might be gained by promptness; are careful in business; often revise decisions, because afraid to trust the issue; live in perpetual fear of evils and accidents; take extra pains with everything; lack promptness and decision, and run no risks; often put off till to-morrow what ought to be done to-day; with excitability large, live in a constant panic; procrastinate; are easily frightened; see mountains of evil where there are only mole-hills; are often unnerved by fright, and overcome by false alarms; with only average or full Force, Dignity, and Hope, and large Ambition, accomplish little or nothing, and should always act under others; with large Acquisition, prefer bonds and mortgages to traffic, small but sure gains to large but more risky ones, and safe investments to active business; take ample time to get ready; make everything safe; bind sure that they may sure find; with large Force, Hope, and an active Temperament, drive, Jehu-like, whatever is undertaken, yet drive cautiously; lay on the lash, yet hold a tight rein, so as not to upset plans; combine judgment with energy and enterprise, and often seem reckless, yet are prudent; with large Acquisition and small Ambition, take special care of all money matters, but not of reputation; with large Friendship and Kindness, experience the greatest solicitude for the welfare of friends; with large Conscience, are careful to do nothing wrong; with large Causality, lay safe plans, and are judicious; with large intellectual organs and Firmness, are cautious in coming to conclusions, and canvass well all sides of all questions, yet, once settled, are unmoved; with small Dignity, rely too much on the judgment of others, and too little on self; with large Parental Love and disordered nerves, experience unnecessary solicitude for children, and take extra care of them, often killing them with kindness, &c.

FULL — Show a good share of prudence and carefulness, except when the other Faculties are powerfully excited; with large Force and very large Hope, have too little prudence for energy; are tolerably safe, except when under considerable excitement; with large Acquisition, are very careful whenever money or property is concerned; yet, with only average Causality, evince but little general prudence, and lay plans for the present rather than future, &c.

AVERAGE—Have a good share of prudence, whenever this Faculty works in connection with the larger organs, yet evince but little in the direction of the smaller; with large Force and Hope, and an excitable Temperament, are practically imprudent, yet somewhat less so than appearances indicate; with large Causality and only average Hope and Force, and a Temperament more strong than excitable, evince good general judgment, and meet with but few accidents; but with an excitable Temperament, large Force and Hope, and only average or full Causality, are always in hot water, fail to mature plans, begin before ready, and are luckless and unfortunate in everything, &c.

MODERATE—With excitability great, act upon the spur of the moment, without due deliberation; lose much from carelessness; meet with many accidents caused by imprudence; are too apt to say, "I don't care;" with large Force, are often at variance with neighbors, and make many enemies; with large Ambition, seek praise, yet often incur criticism; with average Causality and large Hope, are always doing imprudent things, and require a guardian; with small Acquisition, keep money loosely, and are easily overpersuaded to buy more than can be paid for; with large Parental Love, play with children, yet often hurt them; with large Expression and small Secretion, say many very imprudent things, &c.

SMALL—Are rash, reckless, luckless, and have no fear; and with large Hope, are always in trouble; with large Force, plunge headlong into difficulties in full sight, and are likely to fail, and should assiduously cultivate this Faculty.

ITS CULTIVATION, when it is deficient, is as important as the evils it averts are numerous and great. To have enveloped us in a protecting shield, would have excluded much good as well as evil; whereas, this self-guarding avoids impending evils, yet never intercepts any good. In order to cultivate, count the advantages against, but not for; look out for breakers; think how much indiscretion and carelessness have injured you, and be careful and watchful in everything. Imprudence is your fault. Be judicious; and remember that danger is always much greater than you anticipate; so keep aloof from every appearance of it. Remember that heedlessness is the chief cause of your misfortunes, most of which carefulness would obviate. Keep an eye to the

windward; think over the dangers you have narrowly escaped, and take warning against future mishaps; make "sure bind, sure find" your motto; and "look out sharper next time."

CARELESS BOYS should never be put into dangerous trades. In 1835 I told the father of a careless lad never to let him learn any dangerous business, but choose only a safe one. My warning was not heeded. He was apprenticed to a tinman, and in tinning a block of houses, instead of going up and down the ladder, he walked around, back and forth, on unfinished brick walls, stepped on a loose brick, fell, and killed himself. Dr. Noble, who heard my warning, narrated his careless death.

ITS RESTRAINT, however, is far more important than its cultivation, because it is almost always excessive, but rarely deficient. Many allow merely imaginary fears to worry them perpetually; like the woman who lived in mortal dread lest her cow would choke herself to death by swallowing the grindstone. Such should conquer fear by sense; decide one way or the other, off hand, and then drive ahead, hit or miss, and will even then be too timid; should bear ever in mind that they always apprehend more evil than they ever experience, and waste time in procrastination which should be devoted to action; overrate difficulties, and underrate prospects; make trouble out of whole cloth; always look through alarm glasses, and most of their apprehensions are purely fictitious; and should fuss and prepare less, and let things take their course.

DISORDERED NERVES often cause these false fears and moody feelings, which can be obviated only by curing these nerves.¹⁵²

TIMID CHILDREN should never be frightened by threatenings of any kind, being shut up in the dark, told about "raw bones and bloody head," or made afraid of the dark, &c. Many mothers, in addition to transmitting it in excess to their children, perpetually caution and alarm them besides; whereas, they should *assuage*, not augment their fears; soothe, not frighten; tell them, "Never fear," not, "Take care;" and offset fear by courage, thus: A timid little girl became terribly frightened, the first night after moving into a new house, by rats running and screaming overhead, and the next night still more so. Her father, determined to subdue her fears by chastisement, — the very way to increase them, — found her so really frantic with panic that she clasped him around the neck

convulsively. Perceiving the utter impossibility of subduing her fears by force, he offset them by awakening her courage, in sending for a stick with which to whip *rats*, not her, and putting it into her hands, emboldened her to get down, go to the wall, strike it, and finally put her back to bed, stick in hand, telling her to "give it to them if they troubled her any more," and thus saved her from the after evils of that fright; for one panic often lasts a lifetime, and makes one foolishly fearful ever after.

XV. AMBITION: "APPROBATIVENESS."

187. — ITS DEFINITION, LOCATION, HISTORY, AND PHILOSOPHY.

"A GOOD NAME is rather to be chosen than great riches." — *Solomon*.

THE ARISTOCRAT — Emulation; rivalry; sense of honor; regard for character and appearances; love of *praise, fame, glory, commendation, esteem*, and a good *name*; *sensitiveness* to the speeches of people; desire to excel, be thought and spoken well of, attain distinction, attract attention, be popular, rise to eminence, and become *distinguished*; love of show, style, *publicity*, popularity, display, fashion, social position, &c. Its excesses are vanity, jealousy of rivals, envy, bashfulness, &c.

ITS LOCATION is behind Caution, which it joins, parallel to Dignity, above Continuity, and below Conscience. It can easily be found thus: Draw a perpendicular line from the opening of the ear, when the head is erect, to the top of the head; this is Firmness. Passing backwards one and three fourths inches brings you on Dignity; which, like Firmness, runs along up and down the middle line. Ambition lies along on the two sides of Dignity, its two lobes being a full inch apart.

THESE RULES will enable you to find it: 1. Let the head examined be placed straight up and down with its spine, as when sitting erect; draw a line from the opening of the ears to the crown of the head, at an angle of forty-five degrees; this brings you to Dignity. Place your left hand on the forehead, to steady it; put the balls of your first and second fingers on Dignity, and their ends will strike the opposite lobe of Ambition, while their first joints will strike the lobe on the side next to you. 2. When

Dignity is large, and Ambition deficient, the head will be fullest on its middle line, and slope off each way; but when Dignity is deficient, and Ambition large, the ends of your fingers will strike against a ridge running up and down, while the first finger joints fall into a hollow, and that part of the finger next will strike the other swell of Ambition. 3. Standing *behind* the person observed, and bringing your bent elbow down nearly between his shoulder-blades, place the ball of your second finger upon Dignity, and lay those one each side snugly along its side; in proportion as Dignity is deficient, and Ambition large, your second finger will



NO. 138.—THE PROUD YOUTH.

fall into a hollow at first, and then strike prominences running parallel to them; but if Dignity is largest, the second finger will be higher than the first and third. It is much larger in women and girls than in men and boys, both in head and character; so much so that learners may almost recognize its appearance, when large, by observing the form of female heads at the crown. It and its natural language are large in the proud boy, but deficient in Gotfried, and "Conscience large."

SOME NATIONS have it much larger than others. I never knew a French head in which it was not large, and generally it appears to be twice as large in them as in Englishmen. Hence French ornamentation in dress, furniture, everything, and their quondam national hauteur. It has justly been said of them,—

"TO FRENCHMEN, glory is the condiment of the whole feast of life, and the trumpet of fame makes their sweetest music. If I were to rule France, I would make every man an officer, and give all some badge."

THANKS TO PRUSSIA for having taken out some of that conceit and warlike bluster, which kept all foreign nations anxious, and armed, at immense cost to civilization.

"THIS organ is by the side of Dignity. It is manifested in the cranium by two large prominences, projecting like the segment of a sphere, situated by the side of the oval, elongated prominence of Dignity. These prominences are on the parietal bones, at about one third the distance between the parietal and temporo-parietal sutures, reckoning from the

former. Hence it is that the heads of vain people are short from the forehead to this organ. My observations, made since its discovery, in hospitals for the insane and society at large, fully establish this as its form and seat. They took us once to a patient whom they thought mad from pride, but his loquacity, costume, and gestures proved that he was mad from vanity, not pride, and we found in him these protuberances of vanity, yet no pride. I once examined with Esquirol, at the Salpêtrière, the head of a woman who believed herself queen of France. It had precisely these same protuberances, which I found at Vienna, on the head of the maniac mentioned elsewhere, who also believed herself queen of France."

"APES have often astonished me. All know how passionately fond they are of dress, as well as sensitive to mockery and ridicule. Those not decidedly vicious, like baboons (engraving No. 17), and apes whose heads are flat, but are like ourang outangs and monkeys, with a considerable prominence of forehead (engraving No. 16), I advance boldly to and caress; and they ordinarily receive me with the utmost mildness, and utter sounds of joy, tenderly embracing and kissing me. But if they perceive one mocking them, or unable to conceal a smile, they show their teeth, leap upon him, and bite and slap him with admirable agility; and they have the organ of vanity very distinctly shaped, like two segments of a sphere."

"VANITY, ambition, love of glory, are modifications of the same fundamental quality. Woman shows it in dress, statesmen in love of office, and soldiers in defending their country. It is as common as beneficial to individuals and society; for it is one of the most powerful, laudable, and disinterested motives to action. How many brilliant deeds, instances of generous devotion, and admirable exertions does it inspire? Parents and instructors can employ no more efficient incentives to good deeds than this; and what recompense can be more flattering to the generous, noble-hearted man than public marks of distinction and merit, celebrity, and a wide and brilliant reputation?"

"For my part, I like ambition and a sense of honor, in my shoemaker, for it induces him to make me good shoes; and in my gardener, for it gives me the very nicest fruits. I want no advocate, physician, general, or minister who is not anxious for glory, and cares only for gold. I like the native vanity of that young girl; it will some day inspire her with ambition to become an excellent wife and mother. Rectify this pretended weakness, and society will always be the better for it than for the apathy and indifference of those philosophers who pretend to despise it."

"I THANK Nature for giving all more or less of it. Rigid justice rarely appreciates good qualities; but the divine enchantress, Vanity, consoles us for our own defects, and the advantages of others over us, in some self-compensations which we prefer to everything else. Where is the man who, all things considered, would exchange with another?"

"VANITY is the same in forests, villages, and cities. It makes the most uncivilized nations believe themselves superior to the rest of mankind; considering their condition the climax of human felicity, and model of perfection, and esteeming others according as they approach their standard. One is vain of some of its members, another of its wealth, population, antiquity, and power; while those who have nothing

else, boast of their ignorance, simplicity, mountains, forests, slavery, poverty, or the absolute despotism of their tyrants."

A THOUSAND ARTIFICIAL WANTS spring from it to embellish our dwellings, support our industries, and create the conveniences of life. To this, chiefly, we are indebted for the flourishing state of the arts and sciences, sculpture, painting, natural history, public gardens, libraries, monuments, palaces, and temples, which, but for emulation, would be pitiable. So far from being a source of national corruption and ruin, it becomes the mainspring of the arts and sciences; the soul of commerce; the chief agent of national grandeur and opulence, and great incentive to charities, public and private."

"BRUTES, too, love approbation. How caresses delight dogs! How sensitive are horses to marks of appreciation, and how emulous not to be passed! Where, as in Southern France, they decorate smart mules with bouquets, their most painful punishment consists in depriving them of this token. My female ape, whenever they give her a handkerchief, throws it over her, and takes wonderful pleasure in dragging it behind her, like the train of a court robe. My female dog is never happier than when charged with carrying my slippers, when she bridles up and wriggles, and is the more animated the more I say, 'fine Stella,' but suddenly became and remained sullen for two years, from jealousy of a squirrel, yet resumed her gayety the day it died. Birds are equally delighted by praise." — *Gall*.

"It makes us attentive to the opinions entertained of us, and creates the inquiry, 'What will people say?' It is fond of approbation in general, without regard to the manner of acquiring it; and may be directed to objects good, indifferent, or hurtful. Its sphere of activity is very extensive, for it is sensitive to caresses, flattery, compliments, applause, and glory, and men endowed with it use many devices to attract attention. They dress fashionably, and resort to show, decorations, titles, &c. Ambition is its goal in great objects, and vanity in trifles. The victorious general is elated with the applause of his countrymen, and the slave delighted by his master's approval. Combined with the propensities, it glories in being the greatest eater, drinker, and fighter. Some will do everything to gain notoriety. It is one of the most powerful motives in society. It creates politeness, yet makes us slaves of fashion, and is the mortal enemy of personal liberty. The number of those who seek distinction for talents and virtue is small."

"Its great development elongates the posterior, upper, and lateral part of the head, yet sometimes spreads out on either side, which widens instead of elongating the head." — *Spurzheim*.

"ITS DUE ENDOWMENT is indispensable to an amiable character. It produces agreeableness to others; is the drill-sergeant of society; suppresses numberless manifestations of selfishness, lest we should give offence; and is the butt on which wit strikes to obviate our follies. To be laughed at is worse than death to those in whom it is large. No Faculty is more prone to excess. It pays unmeaning compliments, which most persons like when bestowed on themselves, but ridicule in others. It renders the school-girl miserable if her dress and style of

living are inferior, and torments the lady if her apparel and equipage are surpassed by her rivals. It makes the individual talk of himself, his affairs, and connections, so as to convey vast ideas of his own greatness or goodness."

"THOSE in whom it is deficient are strangers to ceremony, and indifferent to censure, and are unaffected by indignities and rebuffs, constituting what are termed 'impracticables.'"

"WHEN POWERFUL it carries the head backward, and a little to one side, softens the tones, and puts smiles into the countenance." — *Combe*.

ITS FACIAL POLE is located just outside of the corners of the mouth, so that its action draws these corners *straight* outwards; while that of Mirth is located slightly *above* and outside of these corners, so as to draw the mouth *upwards* and outwards. Both Ambition and Mirth smile, but a practical eye can easily distinguish the smile of vanity from that of facetiousness thus: the former draws the mouth outwards and *upwards*, the latter *straight* out. The former is a laugh proper, the latter a *leer*, as when one is praised. A practical eye can distinguish between both separately, and the two united.

PROFESSOR MAPES'S DAUGHTER, whom the Author has often seen, had a large part of her skull over Ambition and Dignity broken by a fall, and removed, so that their motion was perfectly perceptible. George Combe also saw her, and tried this interesting experiment of awakening each sentiment in turn, and noticed that, when he praised her, Ambition showed great throbbing and activity, while Dignity was quiet; but when he awakened Dignity, and not Ambition, the former *organ* moved rapidly, and protruded, but not the latter; whilst, when her intellectual organs were rendered active by being required to decipher arithmetical problems, neither showed this trepidation, but both were more sunken than when they were excited.

SOME THINGS are constitutionally commendable, and others, in their very nature, disgraceful. A child falls into the surging billows, but is rescued at the risk of life by a self-sacrificing lover of his race. "Noble, worthy of all praise," exclaim all who hear of the honorable deed. A son of shame casts this same child into this same stream, and, though it is saved, "disgraceful, contemptible wretch," murmur all who know it. "Shame on you," "That's a fine boy," and kindred encomiums and reproaches appeal to this Faculty. To this inherent praise-

worthiness of some actions and characteristics, and disreputableness of others, this Faculty is adapted, and adapts man.

CONFORMITY to each other, and to established societary usages, grow out of it. Such conformity is necessary to homogeneousness in dress, manners, &c. What is called "society" is chiefly its creature. "Public opinion" is its legitimate offspring; and it is all-powerful. "Virtue" is due far more to it than to Conscience. How many pure women are so from motives of *reputation*, rather than any *per se* love of virtue, or repulsion to vice? How many men are kept passably straight by fear of public scandal, who would otherwise run riot?

OUTSIDE SHOW, and a pleasing exterior, are its special creations. It "puts the best foot forward," and does a great many things "to be seen of men," and admired. The other Faculties institute certain rules of conduct, to which it requires conformity, on pain of public reprobation.

NATURE HERSELF makes a great *show* throughout all her borders. Not content with mere utility, she must superadd ornament. The sun *glows*, as well as warms; shining with that identical "ostentation" we see in man. Daylight, twilight, meridian splendors are naturally adapted to elicit commendation. A fair exterior graces and adorns most of Nature's productions. What is her entire floral department but a great gala-day *display* of the most gorgeous and exquisite paintings of the most variegated and showy forms imaginable! How very fine an appearance every tree makes when loaded with fruit; and how much handsomer all fruit is outside than in; and ripe than green. The very green of what is green, the golden yellow of maturity, the variegated hues of the autumn forests and lawns, the very forms of all Nature's productions, are specifically adapted to *exhibit* each in its best light.

THE OUTSIDE OF BIRDS is by far more beautiful than their inside. What means that exquisite painting on the *ends* of their feathers? Why all this pains to show off their *exterior* to such fine advantage, yet leave their under feathers, and the covered parts of feathers unadorned? Why this inimitably beautiful *outside* finish of flowers, fruits, birds, animals? Why these ornamental *mottles* on leopard and fawn, zebra and giraffe? And the shining, elegant *coatings* of most animals? Why that magnifi-

cently superb-looking tail of peacock, when spread, and birds of paradise? How admirable is the *external* form, and velvety cutaneous coating of man, and especially of woman! Why do all involuntarily praise a splendid *looking* woman? Why praise her externals? Why her glowing *cheek*, — that part first and most *seen*, — and why not thus paint hidden parts? Why that magnificent bust in *front*, not rear, and above, not below? Why set all these beauties *on a hill*, seeable afar off?

THEIR VIRTUES men exhibit in the boldest possible relief, their vices they hide. All try to show how smart, talented, and good they are, none how poor, ignorant, or unworthy. Here is a range of *facts*, a *principle* in nature, which must, of course, have, and has for it this its obvious philosophy.

MEN MUST IMITATE. We shall soon see why.²³⁴ They copy most what they see most. If the ugly, deformed side of all Nature, and the worst aspects of human nature, were the most apparent, mankind would *pattern* after these hideous examples and sights, instead of, as now, after the beautiful.

THIS EXHIBITING ATTRIBUTE of Nature, so apparent, so universal, must of course have its counterpart in man;³ else how could he conform to, or even perceive it? much less fulfil its requirements? Ambition to make a respectable appearance, and be creditable, is the product of this Faculty. It must be, it is, a permanent mental *fixture*, inherent and inwrought into the human constitution. Let us learn its "natural use," and obtain from it those varied enjoyments it is designed to create. Let us scan some of its outworkings.

ARISTOCRACY is one of its chief manifestations, and most beneficial to high and low, by giving the low a pattern, and incentive to rise up to. It sets all hands on a keen jump to outstrip all competitors, and be in at any established goal first. But for it there could be no emulation, nor much excellence without that spirit of rivalry it creates. By rendering each anxious to outdo all, at least in some respects, it inspires all to do their best. Who but takes pleasure in riding through the fashionable streets of cities? Yet but for this ambition incentive who would spend money on stylish houses and grounds? Who in church but is delighted with its superb toilets, and all its genteel proprieties? Yet without this Faculty, who would take any pains

or expense to dress and behave thus elegantly? What citizen but is benefited by their soldiers' gallant defence of their common country? Yet does not love of glory, sense of honor, fear of being branded a coward, and desire to be reputed brave, inspire more martial prowess than patriotism, than any other fighting motive? What listener but is benefited by a gifted oration, or reader by a superb book? Yet who would ever *become* smart in either but for ambition's inspirations? Who would bestow public charities if the left hand never knew what the right hand gave? or if all charities were kept a profound secret? Who but likes and is benefited by public morality? yet who, without this Faculty, would care whether they ever seem to be good or bad? In short, a good name is one of the most potential of all the human motives, and attains desirable ends innumerable.

MANY EVILS, however, grow out of its abuse and wrong action, among which are some of the fashions. Though public modes and fashions in dress and behavior are indispensable, and benefit a hundred fold more than they injure,²³⁴ yet wrong ones do incalculable damage. To what excesses and extravagances do they not lead vain women, not by scores, but by *millions*! What untold sums they waste in making all concerned miserable! What foolishly expensive and ridiculously furbelowed toilets they do get up! How they deform the naturally elegant female figure into a hump-backed wasp!—squeezing in the waist and lungs, but padding to downright deformity above and below! What painting of cheeks and pinching of feet of Western snobbery and Eastern celestials! What piles of false hair, and false forms, with false teeth thrown in! What hobbling, nippy, stiff-jointed, affected, ugly walks, in place of pretty, charming gaits and motions! What outside hypocrisies and practical lies, just to keep up false appearances! What sacrifice of female virtue just to obtain the means to make puppet shows! What human evil bears any comparison with these accursed fashions? What loss of health, and life, and offspring, by rendering female devotees of fashion too “genteel” to become mothers, but not to hide shame by infantile destruction! What! Must that most lovely, most exalted, most precious entity on earth or in heaven, *female* nature, be distorted, deformed, perverted, destroyed? O Sacrilege, where *is* thy limit?

How COMES a Faculty thus glorious, then, to produce results thus damnable? *Because its laws* are violated. It fastens on wrong *objects*, which it compels all to adopt, on pain of societary excommunication. Let its juxtapositions teach its directions. It is located directly above the Social Group, that it may seek praise from consort, parents, children, and friends; alongside of Caution, that it may render us careful not to injure our reputation; and *below Conscience*, that it may seek praise for doing *right*. All Faculties should work with their superiors, located above them, not inferiors, located below. Ambition should therefore work mainly with Conscience to do right though heaven falls, and defy that public opinion which may require us to do wrong. Moral and intellectual reputation should be its chief goal. It may justly combine with Inhabitiveness and Force to attain warlike glory by defending country and family, and with Acquisition, in seeking honors which come from riches, yet it should look and work *upwards and forwards* mainly.

TO RECTIFY PUBLIC OPINION, then, wherever it violates this law of Conscience and sense, is the bounden duty of all. In unimportant matters, let men and women follow unmeaning show if they will, yet "set their faces like a flint" against all popular wrongs. Thus, a woman who appreciates the evils of fashionableness may conform just enough not to be noticed as either exquisite or delinquent, yet right should overrule popularity.

REWARDS OF MERIT are due for meritorious actions, as much as wages for work. When children, servants, all persons, have earned commendation, it belongs to them as much as does that house they have earned and paid for; and to scandalize them is as wicked as to cheat or rob them. Your wife has done her best to prepare you such a dinner as she knows you like; now, whether she has failed *or* succeeded, she deserves praise, at least for her attempt. If she fails, she deserves praise only for trying her best; *but* if she succeeds, she deserves double praise for both good intentions *and* good works. And the best way to get a good dinner to-morrow is to praise whatever you can commend in to-day's dinner; for this will stimulate her to earn more praise to-morrow by doing what gained it to-day. But to *blame* her when she tries her best is both unjust and cruel, is even wicked in you. If she is unable to do any better, pity, not reproach her.

Yet, perhaps, the fault is in *you*, you constitutional grumbler! Quite likely you would find fault with an angel in heaven, because you yourself may be in a grumbling, dissatisfied, ugly *mood*. Those who *find* the most fault usually deserve the most. The good rarely complain. At least a *wife* deserves all the praise you can find places to put any in. Woman is far more fond of it, and sensitive to blame, than man; and this wise institute in them should be respected, not outraged, as it generally is. Husbands would get much more service, affection, everything desirable and praiseworthy, if they *only* praised more and blamed less — a cheap way of paying for services rendered.

PRaise INSPIRES, blame demoralizes. Few other motives incite, stimulate, and inspirit to do more and better equally with commendation; while few things crush and dishearten equally with condemnation. Praising others turns all their Faculties to and for you; whilst blame arrays them all against, as in the ridiculed monkey Gall mentioned. A reproached servant not only will not try to do better, but delights to tantalize and provoke you by doing worse. One of the causes of the acknowledged demoralization of our household servants is consequent on that wholesale scolding to which they have been subjected. No child or servant will do well under much reproach. You who administer it are foolish. You stand in your own light. You know little of human nature, and proclaim your own depravity. Praise, or say nothing, or else tell others that by doing thus and so they will please you; but all censure reacts on its author.

ALL DISTINGUISHED persons have it large. But for it they would not even try to do well. I found it immense in Brandreth; and that puffery of his pills this Faculty inspired created their sale. It was altogether enormous in Webster, Calhoun, Clay, and Preston. What is any public or private man worth without any Ambition? Not his salt.

NATURAL DIFFERENCES in men originate a great amount of this censure. Two differ, and both blame each other for not conforming to their individual standard; but whose *standard* is right? Each *thinks* his own best, yet both may be, probably are, wrong; and their disposition to blame quite likely comes from others not conforming to their wrong standard. At least, think twice before you blame once, and consider that possibly the error lies in yourself.

MEN DESERVE praise. All do about as well as they can. Most human errors are *constitutional*, not intentional. They *mean* about right, but do wrong chiefly from errors of head, not heart, or incapacity, not wickedness.

BE CAREFUL how you accuse others. A. steals; B. is honest; C. accuses B. of the theft. Now is not C. as bad as A.? To charge crime on the innocent is about as heinous as the crime itself. Especially an innocent in your own family. The fireside should be too sacred to bandy mutual accusations. Husband, be a little careful how you lay any wrong thing to your wife's charge till you *know* both that she is guilty, and did it with *malice prepense*. Wives, be very careful how you jealously accuse your innocent husbands. A "*little*"? Ay, extremely. And calculate that every reproach will shorten your next dress, and postpone its advent. To blame one on whose good will and kindly feelings you are so dependent, is suicidal to all your own best interests. Such are fools. They do not know the way to their own mouths. Parents, don't, O, pray don't, harden and demoralize your darlings by scolding them unjustly! Yet where is as much blame administered as in the family? or where is it as tithe as baleful? Let us hear no more forever. Never once, after choosing sweethearts, turn their Faculties against you by reversing Ambition; never once reproach "bone of *your* bone, and flesh of *your* flesh," for their faults may be inherited from you! Other means of reform will prove more efficacious, this only disastrous.

188. — DESCRIPTION, CULTIVATION, AND RESTRAINT OF AMBITION.

LARGE — Set everything by the good opinion of others; are ostentatious, if not vain and ambitious; love praise, and are mortified by censure inordinately; are keenly alive to the smiles and frowns of public opinion, and cut by censure; mind what people say; strive to show off to advantage, and are affable, courteous, and desirous of pleasing; love company; stand on etiquette and ceremony; aspire to do and become something great; set much by appearances, and are mortified by reproach; with moderate Dignity and Firmness, cannot breast public opinion, but are overfond of popularity; with only average Conscience, seek praise without regard to merit; but with large Conscience, seek praise

mainly for virtuous doings; with large Beauty, and only average Causality, seek praise for fashionable dress and outside appearances rather than internal merit; are both vain and fashionable as well as aristocratic; starve the kitchen to ornament the parlor; with large Acquisition, boast of riches; with large Friendship, of friends; with large Expression, are extra forward in conversation, and engross much of the time, &c. This is the main organ of aristocracy, exclusiveness, fashionableness, so-called pride, and nonsensical outside show; with large Caution and moderate Dignity, are bashful, take the popular side, and fear to face ridicule; yet, with Conscience and Force large, stick to the right, though unpopular, knowing that it will ultimately confer honor; with large Kindness, seek praise for works of philanthropy and mercy; with large intellectual organs, love literary and intellectual distinctions; with large Friendship, desire the good opinion of friends, yet care little for that of others; with large Dignity, Force, and excitability, are very touchy when criticised, seek public life, want all the praise, and hate rivals; with large percepts, take a forward part in literary and debating societies; with large Force, Hope, and activity, will not be outdone, but rather work till completely exhausted, and are liable to overdo, in order to eclipse rivals.

FULL — Value the estimation of others, yet will not run tandem after it; seek praise in the direction of the larger organs, yet care little for it in that of the smaller; are not aristocratic, yet like to make a fair show; with large Friendship, seek the praise and avoid the censure of friends; with large Conscience, set much by *moral* character, and wish to be praised for correct *motives*; yet, with moderate Acquisition, care little for the name of being rich; with large Kindness and intellectual organs, desire to be esteemed for evincing talents in doing good, &c.

AVERAGE — Show only a respectable share of this Faculty, except when it is powerfully wrought upon by praise or reproach; are mortified by censure, yet not extremely so, and call on the other Faculties to justify; are not particularly ambitious, yet by no means deficient, and not insensible to compliments, yet cannot well be inflated by praise.

MODERATE — Feel some, but no great, regard for popularity; and evince this Faculty only in connection with the stronger; with

large Dignity and Firmness, are inflexible and austere ; and with large Force and small Urbanity, lack civility and complaisance ; disdain to flatter, and cannot be flattered, and should cultivate a pleasing, winning address.

SMALL — Care little for the opinions of others, even of friends ; are comparatively insensible to praise ; disregard style and fashion ; despise etiquette and formal usages ; never ask what will persons think, and put on no outside appearances for their own sake ; with large Dignity, Firmness, and Force, are destitute of politeness, devoid of ceremony, and not at all flexible or pleasing in manners ; with large Force and Conscience, go for the right, regardless of popularity, and are always making enemies ; say and do things in so graceless a manner as often to displease ; with large Acquisition and Dignity, though wealthy, make no boast of it, and are as commonplace in conduct as if poor, &c. ; and care almost nothing for reputation, praise, or censure.

ITS CULTIVATION, when it is deficient, which is rare, is important. Despising the good opinion of mankind is as suicidal as disdaining food. Properly directed it is a most powerful incentive to virtue, and preventive of vice. It was not created for nought, and cannot be ignored with impunity. Emulation to do and become what will insure commendation is one of the most potential stimulants to goodness. All should try their best to stand fair in the community as far as known and become known.

TO CULTIVATE IT — Remember that you often stand in your own light by caring too little for the speeches of people, for appearance and character ; and cherish a higher regard for public opinion, for your character and standing among men, for a good name, and do nothing in the least to tarnish your reputation, but cultivate a winning, politic, pleasant manner towards all, as if you would ingratiate yourself into their good will ; try your best to excel ; keep your character spotless ; say and do nothing disgraceful ; assume those pleasant expressions and winning manners calculated to please ; say as many agreeable things as you well can, especially since people *deserve* more praise than they get ; mind appearances even in trifles ; and when you must say unpleasant things, say them as pleasantly as possible, uniting persuasiveness with force. Reformers will find this course greatly to promote their cause. Especially, seek to retain and enhance the estimation

of friends, and enhance their attachment by rendering them proud of us; for none can ever love those of whom they are ashamed. Still, truth should never be sacrificed on the altar of popularity.

PRaise YOUTH always, or say nothing; for reproach both hardens them, and turns all their Faculties against you. Nothing stimulates them equally. They can be flattered into almost anything. Telling John he does well, yet can do better, and you hope he will, redoubles his praiseworthy efforts; while blasting his pride of character by disgracing him, in telling him that he is nothing, and never can be; is the worst child you ever saw; falsifies, or is forgetful, or always in the wrong, and ought to be ashamed of himself; either makes him ashamed to try, or else think he cannot sink any lower in your estimation, and so will not attempt to do better. Suspect or accuse him of stealing, and he will be far more likely to pilfer than if he thinks you confide fully in him; because, in the former case, he thinks he may as well have the game since he has the name; but in the latter that his reputation is at stake, and hence that he must keep it untarnished. Those who are perpetually blaming or accusing children or servants, do not understand human nature. Keep good their sense of character, and if they disgrace themselves, instead of taunting them with their fall, and making them feel degraded and outcast in their own eyes, let them feel that the error in question will be freely forgiven, and they reinstated provided they behave well for the future.²²⁵ When regard for character is gone, almost certain ruin awaits them. To mortify or shame them makes them feel that, since they are disgraced, they may as well "die for an old sheep," and sin on. As long as the drunkard was treated with contempt, he drank on; but as soon as that Christ-taught principle of Washingtonianism elevated him upon a respectable footing, shook his hand, and treated him again with consideration, he reformed; because, as long as he considered his respectability irretrievably lost, he made no efforts to regain it; while treating him with respect, revived Ambition, and strengthened resolution. This principle applies to king and beggar, to all mankind, and embodies a law of mind which all should respect, and can and will yet be employed to reform and save abandoned women.

ITS RESTRAINT, however, is often necessary. It is one of man's largest organs. Few Faculties equally require right direction.

How superlatively ridiculous many render themselves by its excess or perversion. Men, and especially women, seek praise less for what they are, than wear and possess. Affectation, only the outgrowth of this Faculty, spoils the appearance of many. The best way to appear well is to think nothing about it. Natural manners are always agreeable, artificial always awkward.

TO RESTRAIN — Remember that you are infinitely too sensitive to reproof; that your feelings are often hurt when there is no occasion; that you often feel neglected or reproved without cause; that evil speaking breaks no bones, and will ultimately thwart itself; should lay aside that affected, artificial style of manners and speaking; be more natural; walk, act, feel as if alone, not forever looked at; be less particular about dress, style, appearance, &c., and less mindful of praise and blame; subject Ambition to conscience; that is, do what is right, and let people say what they like; be more independent, and less ambitious and sensitive to praise and flattery.

WARDROBE PRIDE DISPARAGES SELF by placing the dress above the person. Claiming praise for a thirty dollar bonnet virtually rates self below it. The greater always confers honor on the less, so that those whom dress honors are inferior to it. How supremely ridiculous the maxim, "Better be out of the world than out of the fashion." Is, then, man-made *attire* above God-made humanity! Is man indeed below *thing*? Shall silks and satin, ribboned off, and cut and sewed in fantastic shapes, and distended by coffee-bags and cotton, be the standard of valuation? Can fabrics, can even golden trinkets, enhance the honorableness of the "lord of creation"? And wilt thou, reader, practically indorse a standard of praise so superlatively ridiculous? Will you thus libel the dignity and glory of your own God-like nature? O, votaries of fashion! how foolish, how wicked! And what untold but self-induced miseries you suffer in consequence! Words utterly fail to depict the evils of fashion! Drunkenness bears no comparison with it in the number of its victims, and aggravation of its sufferings. All the crimes of all culprits are trifles compared with this monster of iniquity. The evils even of licentiousness, however appalling, are pygmies by the side of this mighty giant; because, while the former slays its thousands, the latter devours its tens of thousands, soul and body. Indeed,

but for the latter, the victims of the former would be few. Nine in every ten of the daughters of infamy humble themselves to procure the means of following the fashions. How generally is the poverty of the poor, at least in this country, induced by past or present outlays for fashionable display! Say, hard-working husband, do not at least half your labors go to keep up *appearances* in dress, style of living, &c.?

ITS DEGRADATION OF SOUL, however, is its chief evil. Praising *worth* instead of fashion would cause a mighty *rush* towards intellectual attainments and moral excellence! Mankind would not then, as now, neglect their minds and live for the fashions, but would labor and strive, with all the energies of their being, to develop by culture the exalted capabilities of their natures. But fashion now prevents such culture by engrossing their time. A standard of praise thus utterly contemptible and ruinous should disgrace even monkeys. Then shall we practically indorse it? Shall our ambition fasten on nothing higher than broadcloths and bonnets being cut and made after a particular *pattern*? Shall our very lives and souls be offered up on the altar of SUCH a goddess? Shall we who were made to reflect the image of God be darkened by such fripperies? Shall we who are constituted to soar aloft on the wings of angels descend below inanimate matter? Shall we exalt our clothes above OURSELVES! or sanction so despicable a standard of praise in others! Let men point the finger of ridicule at our dress as they may, but let our ambition appertain to *conduct* and *morals*, not to riches, nor any external "pomp or circumstance." Let Ambition be governed not by the propensities, but by the higher Faculties, and seek praise for what is in them, not on them.

XVI. DIGNITY: "SELF-ESTEEM."

189. — ITS DEFINITION, LOCATION, ADAPTATION, &c.

THE LEADER — Self-Respect, reliance, appreciation, satisfaction, and complacency; pride; independence; love of liberty and power; volition; self-government; will-power; domination; authority; the aspiring, ruling, self-elevating instinct; nobleness; dictation; leadership. Perversion and excess, contempt; arro-

gance; disdain; presumption; insolence; tyranny; imperiousness; hauteur.

DIGNITY LARGE.



No. 139. — AUTHORITY.

DIGNITY SMALL.



No. 140. — SUBMISSION.

ITS LOCATION is on the middle line of the head between the two lobes of Ambition, back of Firmness, and at the crown of the head. We gave the rule for finding it under Ambition.

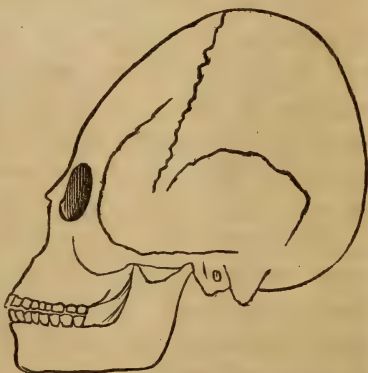
IT IS LARGE in Authority, the Alabama Flathead, Dr. Caldwell, the Conceited Simpleton, the Proud Boy, and others; but deficient in Submission, the kind boy, and others, each of whom expresses its natural language in accordance with its development.

DR. CALDWELL, a powerful writer, and man of commanding talents, was wont to manifest its excess by saying in his public lectures, "America has three truly great men — Daniel Webster, Henry Clay, and — but modesty forbids my naming the third."

"It is formed by cerebral convolutions on the median line, directly behind and beneath the summit of the head, and therefore manifested in the skull by one elongated protuberance, though there is really one in each hemisphere. It appears double only when they are a little separated." — *Gall*.

"THIS organ is situated in the back part of the mesial line of the vertex, where the coronal surface begins to decline towards the occiput. When it is large, the head rises high upwards and backwards from the ears." — *Combe*.

DIGNITY LARGE.



No. 141. — ALABAMA FLATHEAD.

ITS FACIAL POLARITY is at the sides of the upper lip, which it elongates and fills out over the upper eye teeth. That is, it enlarges the face between the outer edges of the nostrils and the corners of the mouth. Its powerful action, as in scorn and disdain, slightly lifts the outer edges of the upper lips.

ITS NATURAL LANGUAGE carries the head straight back and up, pointing towards the crown of the head. Ambition rolls it slightly to one side, and backwards. Obsequious persons throw their heads back, yet cant them slightly round to *one side*, and then the other.

GALL DISCOVERED this organ in a young man, a beggar, of fair address, by moulding his head, scanning its form, and then pumping him as to his peculiarities. He said he had always been too proud to condescend to engage in business, either to preserve his paternal fortune, or acquire a new one; and that this unhappy pride caused all his misery.

GALL AND SPURZHEIM differed a little about this organ, just as Spurzheim and Combe did about Continuity and Inhabitiveness, and for precisely the same reason, namely, that there are *two* organs, so that both were substantially right. Spurzheim had discovered an organ which Gall had not, and Combe one Spurzheim had not. Gall attributed to Dignity, or heights, that love of ascending, which Spurzheim attributed to Inhabitiveness.

MEN CONFOUND "Approbativeness" and "Self-Esteem" so almost universally that I often find difficulty in making my descriptions understood. Hence my change of their names to those both more expressive, as I think, of their true functions, and not liable to this confounding of terms and ideas. Gall draws this admirable difference between them.

"THE proud man is imbued with a sense of his own superior merit, and from the summit of his grandeur treats all other mortals with indifference or contempt; while the vain man attaches the utmost importance to the opinions entertained of him by others, and eagerly seeks their approbation. The proud man expects others to come to him and find out his merits; while the vain man knocks at every door to attract attention and supplicates for trifling honors. The proud man despises those marks of distinction which confer the utmost delight on the vain. The proud man is disgusted with indiscreet eulogiums; while the vain man inhales with ecstasy the incense of flattery, however awkwardly offered. The proud man never stoops, even in urgent necessities; the vain, to gain praise, will humble himself, even to crawling. Pride and thirst for

dominion exist in few, whilst vanity and selflove are universal. Pride and vanity are very different fundamental qualities, so that we must admit a primitive organ for each."

"A PRINCE in Vienna, remarkable for his ridiculous pride, stiff gait, and always quoting his ancestors, was bald, and had this same conformation I had noticed in the mendicant. Every one will find proofs that this sentiment is innate in their proud and haughty acquaintances." — *Gall*.

"ALL men incline to despotism. We crawl at the foot of the throne, that we may be above those we would subdue. The lowest slaves to their superiors are the haughtiest despots to their inferiors. The vizier humbles himself to his master, yet before the pachas puts on the disdainful airs of the Grand Seignior." — *Leroy*.

ITS ADAPTATION is to the need of leadership. A head is a universal necessity. The body must have its head; so must everything else. Every seed must have its chit, which predetermines whatever appertains to its future life. Thus grasses, grains, all forms of vegetative life, do and must have their respective heads, in which all their specialties and products centre. All farms must have their head-centre in their house and barn. All flocks of geese, pelicans, crows, &c., must have their leader, and of sheep their "bell wethers" and head leaders. In all herds which require prowess and courage, a male is chosen; in all which demand watchful vigilance, a female is selected; but all must be led and managed. In all broods, as of fowls, the parents lead, and also in all households; and of these two the father is the conceded head, except where the mother is his acknowledged superior, and involuntarily takes his place, because better fitted to fill it. All neighborhoods look up to some one man, put him in chairman, ask and take his advice, and make him their "bell wether," while all religious bodies find theirs in their dominie. Even all prayer and class-meetings must have their "leaders," all churches their synods and bishops, and they their cardinals and Pope, in effect, if not in name. Every business must have its head man, and firm its senior partner, and final umpire. Every court must have its judge and leading attorney, and state its superior courts, and these their head court of appeals, and all the judiciary of all the states their "Supreme Court." All towns must have their head office, all counties their "board of supervisors," and states legislatures, and these their congress, and this its presiding officer, and the whole their grand presidential head. All armies must have

their commanding generals, all regiments their colonels, all companies their captains, and all squads their drill-sergeants; while masons, oddfellows, and all other bodies must have their head men; nor can two persons meet but one involuntarily assumes and is accorded the leadership. All schools must have their masters, and seats of learning their professors, faculty, president, and trustees. Behold this universal *fact* of leadership or headship. Who ever saw man, beast, bird, worm, anything without a head, unless sundered by violence? Behold also the absolute *necessity* for this head to everything animate! Here is a natural fact and necessity. Of course man must have some innate element adapting him to it, or it must be unknown to him. He is adapted to all Nature, and must therefore have a mental *Faculty* to experience and express this entity. Dignity is that element. All have some of it, and all have somebody to command — girls their dolls, and beggars some subordinate beggar still below them, and the lowest some dog or cat to order or kick around.

DIGNITY is also an element inherent in all things. Yon towering oak stands in grand, dignified sublimity for ages, seemingly justly proud of his vast bulk and majestic proportions. Behold yon tall pine and great cedar, standing erect in silent majesty as if proud of themselves; and they are justly so, for having braved centuries of winds and winters' storms, even hurricanes, and sent forth myriads of their young. That powerful horse arches his proud neck, erects head and tail, dances, prances, snorts and neighs, leaps and jumps, justly proud in the consciousness of his tremendous strength. Both tree and horse must and do possess this element.

CREATION'S NOBLE LORD may more justly be prouder still of being the greatest terrestrial work of God. Yonder towering mountain is majestic; stupendous Niagara's cataract is awe-inspiring; and heaven's azure vault, studded with countless worlds, is stupendous; yet man in comparison is the greatest of all. What is Niagara when beheld only by a brute? What is *Ætna's* volcanic eruption, what the whole earth's gigantic bulk, what even the material heavens and their myriads of worlds in comparison with man? Can inorganic matter, however huge, surpass man's divinely-contrived system of bones, muscles, organs, and nerves, all redolent with

life and teeming with enjoyment? Happiness being the standard of valuation,¹⁵ that is greatest which enjoys most. Does Chimborazo feel, or the earth enjoy? Was not terrestrial creation made for man, not he for it? And is that greatest which is made to serve? Is the chariot above the charioteer? Are not more Divine Wisdom and Power exhibited in the structure of the human hand or eye than in the whole universe of inorganic matter?

MIND is the greatest work of God.¹⁸ Compared therewith, all else is "dust and ashes." The domestic affections, the resisting, feeding, economical, provident, emulous, and other instincts, how infinitely wise in constitution and efficient in function! Yet it is his moral and intellectual elements which form his crowning endowments. These render us near of kin to angels, and "the sons and daughters of the Lord Almighty!" They even array us in the robes of immortality,¹⁹⁹ and confer on those who fulfil its conditions capabilities of becoming eternally and inconceivably holy and happy! Yes, "in the image of God" is every one of us created. His intellectual and moral likeness is stamped upon our souls, and even forms their constituent elements.²⁰⁷ But His and our primitive *elements* are the same. We are "living stones" in His infinite temple. He breathed of His own divine spirit into our nostrils, and we became "living souls." "In His own image," moral and intellectual, are we created. With "a live coal from off the altar" of His own nature, He lighted up the fire of immortality, which burns, however dimly, within us. His divine likeness we bear. That likeness is faded, mildewed, and crushed, yet there it is. Sin has stained it, and depravity almost obliterated it, but the canvas is divine in structure, and the original lineaments and colors, as pencilled by the infallible Artist of the universe, are still visible—are even a miniature of His own intellectual and moral conformation! It is faint, yet perceptible; trodden into the mire of moral corruption, yet there still! Lift it up; wash off its filth; remove its stains by varnishing it with the oil of forgiveness; burnish it, hold it up to the light of its primitive constitution, and O! behold the divine in that portrait, even yet! Defaced it can be, but effaced never. God will not let His pencillings be extinguished. His spirit He "will not utterly take away." Thank the Lord, every one of us carries within the innermost recesses of our own souls this mental por-

trait of the Almighty; and if we "occupy till He comes," we shall both see Him as He is, and be like Him. "Beholding His face, we shall be changed from glory to glory," till the cleansed portrait of humanity, retouched by that same Artist who first fashioned it after Himself, shall reflect in the galleries of heaven, to all eternity, the perfect "image and likeness" of our Infinite Original — the God and Father of us all! And even all this is but the faintest glimmering of what humanity is capable of becoming! To these exalted ends and destinies Dignity is adapted, and adapts man.

WE HAVE A PERFECT RIGHT to place a most exalted estimate upon ourselves. CAN we overrate our own worth? We may, indeed, value ourselves wrongfully, and even on account of our deformities, but not too much. This Faculty may take a wrong direction, but cannot well be too large. Then why hang our heads or sink back into the corner of insignificance? Are the children of GOD such inferior, unworthy, degraded "worms of the dust"? All that should humble us is what we are by *practice*, not Nature. Away with this idea of man's nothingness and inferiority! Phrenology arraigns it as false. All that even a GOD could do to exalt and endow humanity, He has done. Reference is had to our primitive constitution, not to man's present degraded, depraved condition. That we have fallen from this high estate, is a self-experienced fact. That we, created only a "little lower than the angels, and endowed with honor and immortality," should have fallen instead of soared, should even have so far degenerated from our divine parentage as to deny it, and given ourselves up to work all manner of uncleanness and iniquity, should humble us in the very dust. That capabilities thus transcendent should be thus abused, so as even to work the work of incarnate devils, should sting us to the quick with remorse, and bring us upon the bended knees of contrition, imploring, with the prodigal son, forgiveness and restoration. And those who do thus repent and pray, will be re clothed and reinstated.²²⁴ We are bent, but not broken; trampled into the mire, but not crushed to atoms; withered, but not dead. The *divine original* is in us still. O, arise, son of shame and daughter of sorrow! Shake off dull sloth. Trim thy Heaven-constructed lamp. Meet thy inviting heavenly Father. Put away all thy idols, all thy sins; and array

thyself again "in garments clean and white." "Touch not, taste not," any "unclean thing." Ascend those lofty heights from which thou hast fallen. Cultivate the divine gifts within thee. Be in fact what thy Creator capacitated thee by Nature to become. It is late, but not yet the eleventh hour. The doors of this heavenly palace are not yet wholly closed. Arise quickly, and enter.

A SECONDARY adaptation of this Faculty is to that law of mind by which confidence in our own strength promotes success, and appreciating our capabilities augments efficiency. Then trust and distrust those who trust and distrust themselves. Men take us at our own self-estimate till they find out to the contrary. Tell that boy he "can't if he tries," and he will either not attempt, or only feebly; but telling him "You *can*," contributes wonderfully to success. Encouraging self-reliance enhances effort and excellence quite as much as exciting Ambition; while discouraged Dignity, like mortified Ambition, palsies the entire man.¹⁸⁷ To this requisition for self-confidence this Faculty is adapted, and adapts man. It elevates all his aims and aspirations, and thereby redoubles both effort and success.

SELF-SATISFACTION is another trait in human Nature as necessary as it is universal: The poorest beggar would not exchange himself, not places, but soul and body, with the richest, wisest, most renowned, and best of men. We often feel dissatisfied with our lot, but never with *ourselves*. Even our faults are too often converted into occasions of pride. How many times, on telling men professionally of this or that excess or defect, such as of libertinism, cunning, carelessness, vanity, and the like, have they publicly acknowledged that these things were so, and rather gloried in them! But for this principle of self-valuation, what endless animosities would everywhere occur! What complaints against God for bestowing more on others than on us! But this trait lulls all such murmurs, and instead, makes us thankful that, Pharisee-like, we "are not as other men." This necessary and inimitably beautiful end is secured by Dignity, and the larger it is the better satisfied we are with ourselves; and since all have more or less of it, all are more or less self-satisfied.

190. — DESCRIPTION, CULTIVATION, AND RESTRAINT OF DIGNITY.

LARGE — Have the highest respect for *self*; place special stress

on the personal pronouns ; carry a high head, and walk so straight as to lean backward ; have a restless, boundless ambition to be and do some great thing ; put a high estimate upon own sayings, doings, and capabilities ; fall back upon own unaided resources ; will not take advice, but insist upon being own master ; are high-minded ; will never stoop, or demean self ; aim high ; are not satisfied with moderate success, or a petty business, and comport and speak with dignity, perhaps majesty ; are perfectly self-satisfied ; with only full intellect, have more egotism than talents, and are proud, pompous, supercilious, and imperious, and with Hope large, must operate on a great scale or none, and launch out too deeply ; with Ambition large, are most aristocratic ; and with only fair intellect, are a swell-head and great brag, and put self above everybody else ; with only average Ambition and Urbanity, take no pains to smooth off the rougher points of character, but are every way repulsive ; with average Parental Love, are very domineering in the family, and insist upon being waited upon, obeyed, &c., and should carry the head a little lower, and cultivate humility ; with large Parental Love, take pride in children, yet with Force large, require implicit obedience, and are stern ; with large Friendship, seek society, yet must lead ; with large Acquisition added, seek partnership, but must be the head of the firm ; with large Firmness and Force, cannot be driven, but insist upon doing *own* will and pleasure, and are sometimes contrary and headstrong ; with large Hope, think anything you do must succeed, because done so well ; with large moral organs, impart a tone, dignity, aspiration, and elevation of character which command universal respect ; and with large intellectual Faculties added, enjoy and are very well calculated for public life ; are a natural leader, but seek moral distinction, and to lead the public *mind* ; with large Force, Destruction, Firmness, and Ambition, love to be captain or general, and speak with that sternness and authority which enforce obedience ; with large Acquisition, aspire to be the richest man in town, on account of the power wealth confers ; with large Firmness, Observation, Expression, and Force, seek to be a political leader ; with large Construction, Perceptives, Causality, and Force, are well calculated to have the direction of men, and oversee large mechanical establishments ; with only average brain and intellect, and large selfish

Faculties, are proud, haughty, domineering, egotistical, overbearing, greedy of power and dominion, &c.

FULL — Evince a good degree of dignity and self-respect, yet are not proud or haughty; with large Force, Firmness, and Hope, rely fully upon own energies in cases of emergency, yet are willing to hear advice, though seldom take it; conduct becomingly, and secure respect; and with large Force and Firmness, and full Destruction and Hope, evince much power of this Faculty, but little when these Faculties are moderate, &c.

AVERAGE — Show this Faculty mainly in combination with those that are larger; with large Ambition and Firmness, and a large brain and moral organs, rarely trifle or evince meanness, yet are seldom conceited, and think neither too little nor too much of self, but place a just estimate upon own capabilities; with large Friendship, both receive and impart character to friends, yet receive most; with large Conscience, pride self more on moral worth than physical qualities, wealth, titles, &c.; and with large intellectual and moral organs, mainly for intellectual and moral excellence, &c.

MODERATE — Rather underrate personal capabilities and worth; feel somewhat inferior, unworthy, and humble; lack dignity, and are apt to say and do trifling things, and let self down; with large intellectual and moral organs, lead off well when once placed in a responsible position, yet at first distrust own capabilities; with large Conscience, Force, and activity, often appear self-sufficient and positive, because certain of being right, yet more from reason than egotism; with large Ambition, love to show off, yet are not satisfied with self; and go abroad after praise, &c.

SMALL — Feel diminutive; lack elevation and dignity of tone and manner; place too low an estimate on self, and, with Ambition large, are too anxious to appear well in the eyes of others; with large Force and Destruction, show some self-reliance when provoked or placed in responsible positions, yet lack that dignity which commands respect, and leads off in society; lack self-confidence and weight of character; cannot command, and often trifle; shrink from responsible and great undertakings, from a feeling of unworthiness; underrate self, and are therefore undervalued by others, and feel insignificant, as if in the way, or tres-

passing upon others, and hence often apologize, and should cultivate this Faculty.

THE CULTIVATION of this ennobling Faculty, therefore, becomes important whenever it is deficient, as it generally is. Such should try to appreciate their own merits, and rise in their sphere; should say, "I can *try*, sir;" "What man has done, man can do;" should choose and act for themselves; always comport themselves with dignity and self-respect; may hear advice, but should make up and follow their own judgment; pay their own way through life, and never allow themselves to be beholden or subservient to any; remember that their oppressive feelings of unworthiness and insignificance are not caused by actual inferiority, but by deficient Dignity; that were they ever so good or great, they would feel thus humble; that they underrate themselves, and require to hold up their heads; that they are as good as the generality of men; that while humility towards God is a virtue, self-abasement, in reference to their fellow-men, is uncalled for and injurious; that, in short, they are men and women, and belong to the great brotherhood of humanity. As the old Roman felt a conscious pride in exclaiming, "I am a Roman citizen," so such should indulge a still greater pride in the feeling, "I am a human being, endowed with all the prerogatives and immunities of humanity;" should feel as Blackhawk expressed himself when brought before Jackson, "I'm a man, and you're another." You may reverse this — "You're a man, and I'm another;" but remember, practically, that others are only men, yet that you also are human; that some of them may be better than yourself, while others are worse, but that their riches and your poverty, their knowledge and your ignorance, their cultivation and your want of it, are as nothing; that you are their human brothers; have the same origin, Faculties, and destiny, with them; are fed from the same great table of Nature; sustained by the same breath of heaven; alike in all primary elements, and differ only in degree, and perhaps that difference is in your favor. In short, exercise Dignity on the one hand, and offset its deficiency by these and kindred reflections on the other. Above all things, never belittle yourself in your own eyes, or those of others, by doing anything small, mean, low, humiliating, or trifling, but always carry and express

yourself with manly dignity and conscious elevation. Especially walk erect, for acting out this Faculty will help you feel it.

CULTIVATE IT IN CHILDREN, by throwing them on their own resources. Do not humble, but rather exalt them in their own estimation. Make them feel that they are embryo men and women, and created for something noble, and hence should fit themselves to fill some important station. This sentiment, so far from inflating, will rather humble them. When they have perpetrated any mean act, talk to them as though they should feel themselves above such self-abasing things. In short, develop this Faculty by calling it into action. Especially, never crush them by sternness and severity, nor look down upon them so as to make them feel menial, or cheap. Raise, not depress them.

SELF-GOVERNMENT AND TRAINING WILL is another adaptation and functional phase of Dignity worthy of special attention. Man is a voluntary being, endowed with that self-determining power which enables him to choose or refuse evil and good. This iron will, which takes the reins into its own hands, and does according to its own pleasure, is the product in part of this Faculty, aided by Secretion, Firmness, and some other Faculties. Metaphysicians may speculate on this point for and against, yet the ever-present consciousness of every human being assures us all that we are endowed with power of choice. We are not machines, impelled whithersoever we go by circumstances and our organization, but can resist this besetting sin, and do that virtuous deed. When any passion becomes unduly or abnormally excited, there is a gubernatorial power within us which can divert the erring passion, and set the other Faculties at work by placing their appropriate food before them,⁶⁴ thus restraining the former, cultivating the latter, and controlling our feelings and conduct. Especially can it put its veto on sinful indulgence in act. Man requires and possesses self-control, and this Faculty, aided by some others, confers it.

A POWER THUS IMPORTANT should be assiduously cultivated, from infancy to old age. When, or in what situation in life, after we leave the cradle till we descend into the grave, are we not exposed to temptations? In this respect all mankind are Adams and Eves. Sometimes we are "drawn away by our own lusts and enticed," and sometimes by others. Our Eves are of various

kinds, but all are perpetually exposed to temptations. All, therefore, require that shield of safety which this self-governing power alone can furnish. Then let it be exercised. Let us place it at the helm of all we say and do. Will to do this and not to do that, and then do it. Never yield, no, not for once, to the siren voice of temptation, because the more you do the more you may. Even "if thy right eye offend thee, pluck it out." Do what, and only what, the higher Faculties dictate.^{194,238} Let them, in accordance with their primitive constitution, be the king on the throne, and will their sworn executor.

ITS RESTRAINT AND DUE REGULATION is necessary in those who are proud, egotistical, conceited, forward, pompous, supercilious, arbitrary, self-willed, dogmatical, or domineering. The Conceited Simpleton, No. 134, taken from life, though most homely, believed himself handsome, and perfectly irresistible to the ladies; and though "non compos," fancied himself one of the earth's great men, in consideration of which he allowed his bust to be taken; and though he could not sound fa, sol, la, yet he thought his the best counter-voice in the world. Those whose Dignity thus predominates should remember that their self-conceit often renders them ridiculous, yet that, like him, they "do not see it"; should attribute their exalted notions of themselves to this inordinate Faculty, not to real merit; should bear in mind that, be their talents great or small, they overrate them, and hence, that if they are ten, they rate them at fifteen or twenty; that they are too apt to play the captain, and put themselves forward; that others were not made to be their lackeys; and that they must suppress this swaggering manner and feeling. Let such often observe this self-inflating organ at the crown of their heads, and recollect that their developments are no way extraordinary, except for vain-glorying; and if this does not humble them, they must be ninnies indeed. This proud, haughty, touch-me-not, imperious, I-am-better-than-thou bearing is utterly contemptible. Granted that you are better than others, yet what have you that you have not *received*? Then why thus vaunt yourself on what was *given* you? Besides, true greatness produces humility, not ostentation. No index of littleness is more sure than this affected grandiloquence, for it shows a predominance of Dignity over the higher Faculties, which is a sure sign of intellectual and moral inferiority. Does God

condescend to man, and shall man be too proud to speak to his brother man? Granted that you are above them, should you not try to elevate them, instead of assuming these monkey airs, and manifesting this cold contempt for those as good by nature as yourself? When will men learn to exchange this baboon pride for that ennobling sentiment designed by nature in the creation of this Faculty?

XVII. FIRMNESS.

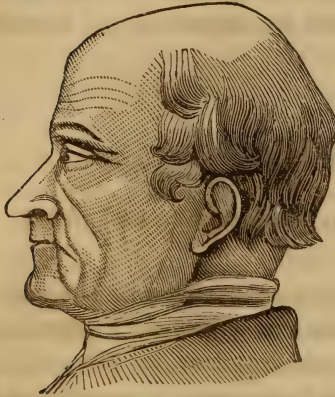
191. — ITS DEFINITION, LOCATION, DISCOVERY, AND ADAPTATION.

THE PILLAR. — Perseverance; stability; decision of character; pertinacity; indomitability; resolution; wilfulness; fixedness of purpose; aversion to change; unwillingness to discontinue, &c. Excess and perversion, dogged obstinacy; unreasonable mulishness; blind stubbornness.

ITS LOCATION is on the back part of the top head, on the middle line. The rule for finding it is this. When the head is erect, starting your second finger at the opening of the ears, carry it straight up to the top of the head, and drop it on its middle line, and you are on the centre of this organ. It is one of the easiest found, and usually large, especially in men. The taller the head from the ears to its top, the larger this organ. It can be easily observed, these three ways: 1. Standing at the side of the head, steady it by placing the left hand on the forehead, put the first joints of the right hand fingers on the middle of the head, at the top point above described; if they break over a ridge, it is Firmness, but if the head is flat there, or hollowing in, as in Conscience large, No. 152, it is minus. 2. Standing behind the head observed, and steadying it with the left hand, place the three fingers of the right hand on the back part of the top of the head, just before it begins to slope, with your second finger on the middle line of the head, the first and third pressing snugly against it, this middle finger will rise up above the others in proportion as Firmness is developed above the other organs. 3. Place your two hands upon the head, with the two index fingers lying close to each other; large Firmness will cause the head to rise

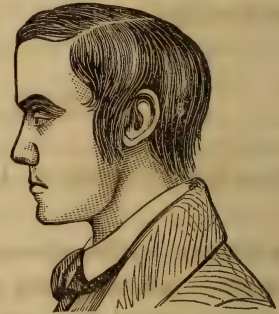
under the junction; but when the head is flat and level, this organ is moderate. Its fore part, when it is larger than surrounding organs, quite resembles the forward end of a flat-iron.

FIRMNESS VERY LARGE.



No. 142.—DR. CALDWELL.

FIRMNESS MODERATE.



No. 143.—THE GOOD YOUTH.

It is much less in women than men. It is very large in Dr. Caldwell, Authority, the Conceited Simpleton, Blackhawk, and many others, but deficient in Humility, and the Good Youth.

“THIS ORGAN is formed by convolutions placed immediately on the top of the head, under the two superior anterior angles of the parietal bones, at the point where they meet the superior posterior edges of the frontal. When they are large they give to the crown of the head a spherical protuberance, which is prominent in firm persons, but level or depressed in the feeble and irresolute.” — *Gall*.

“WHEN this organ predominates it gives a peculiar hardness to the manner, a stiffness and uprightness to the gait, with a forcible and emphatic tone to the voice.” — *Combe*.

ITS FACIAL POLE is in the upper lip, which its development proportionally lengthens. Hence, “Now keep a stiff upper lip” means remain firm; don’t give up. Persons in its exercise press the upper lip down strongly against the upper teeth and gums. A short upper lip denotes its deficiency.

STABILITY is one of the most apparent ordinances of Nature. Permanency is her motto. She and her Divine Author are “the same *from everlasting to everlasting*.” The sun is unwavering and undeviating in his course. The seasons go and come the same from age to age. Mountains stand on the same bases and in their

same place for ages past and to come. Rivers flow on in the same channels, and marshes and dry lands remain where they ever were. Trees and vegetables stand in their places from their first sprouting till they have fulfilled their mission and die, unless removed and transplanted by violence, which injures. Here is an attribute in Nature and a want in man, both of which must of necessity have their mental Faculties. To this natural law and fact of permanency this Faculty is adapted, and adapts man.

OBSTACLES gather around our pathway in whatever we do. Some must be exterminated, but others *worn out*. We must *watch and wait* for many of the most valuable possessions of life. A gourd, which springs up in a night, but withers in the next day's sun, is valueless; while oak wood is valuable, because durable. All great undertakings require great persistence and fixedness of purpose.

NO MAN EVER SUCCEEDED without great will-power to hold on and hold out in the teeth of opposing difficulties. I never knew a man distinguished for anything, not even crimes, to lack it. It is an indispensable prerequisite of greatness and goodness. Without it great talents are of little avail, for they accomplish little; but with it large, fair to middling capacities accomplish commendable results. Success in life depends more on this than on any other single attribute.

ITS LOCATION signifies its importance. It is placed between the animal and moral that it may preside over all, and add permanency to all their operations; otherwise they would be fitful. It is above the organ of Government that it may impart stability to all governments, and prevent men from lightly destroying their nation; for on unstable ones the people could place no permanent reliance.

IT OBTUDES AMONG THE MORAL ORGANS. This phrenological fact is very significant and important. It would not be there unless it had important *business* there. It must help sustain the moral Faculties in curbing in and restraining the rampant surgings of the passions. It is located at the side of Conscience that it may dispose men to stick eternally to the right, and set their faces like a flint against the wrong and unjust. Its location among the moral organs shows that it is a great moralizer. Its sustaining

power is indeed wonderful. Patiently, persistently it toils on, works on, waits on, like a clock perpetually ticking; ticking on interminably. Neither pleasures allure it from its marked-out course to the right, nor hinderances flex it over to the left; nor does even fatigue or sickness arrest its determined progress.

"HE who maintains his Faculties in vivid activity the longest will frequently succeed at last merely by wearing out his opponent. Fortitude and patience result from this Faculty. It is large in American Indians, and their powers of endurance seem almost incredible to Europeans. Dr. Gall found it very large in an exceedingly hardened highwayman, long kept in close confinement, and finally beaten to force him to disclose his accomplices, without effect, when he strangled himself with his chain. After his death his parietal bones were found separated precisely where Firmness is located; whether from violent strangulation, or the excessive energy of this Faculty, or accident, he could not say, but records the fact. It is very large in King Robert Bruce, who distinguished himself for unshaken Firmness where ordinary men would have been overwhelmed with despair. It was large in Spurzheim and Rammohun Roy." — *Combe*.

192. — DESCRIPTION, CULTIVATION, AND RESTRAINT OF FIRMNESS.

LARGE — Are set and wilful; stick to and carry out what is commenced; hold on long and hard; continue to the end, and may be fully relied upon; are well nigh obstinate, stubborn, and with large Force and Dignity, as unchangeable as the laws of the Medes and Persians, and can neither be persuaded nor driven; with large activity, power, brain, and intellectual organs, are exactly calculated to carry forward some great work which requires the utmost determination and energy; with large Causality, can be turned by potent reasons, yet by nothing else; with full Dignity and large Force, cannot be driven, but become the more determined the more driven; with large Force and Destruction, add perseverance to stability, and not only hold on, but drive forward determinedly through difficulties; with large Hope, undertake much, and carry all out; with large Caution and Causality, are careful and judicious in laying plans and forming opinions, yet rarely change; may seem to waver until the mind is fully made up, but are afterwards the more unchanging; with Hope very large, and Caution and Causality only average, decide quickly, even rashly, and refuse to change; with Friendship and Kindness large, are easily persuaded, especially by friends, yet

cannot be driven ; and with large Caution, Force, Causality, per-
ceptives, activity, and power, will generally succeed, because
wise in planning, and persevering in execution. Those with
Force and Dignity large, and Causality only average, will not see
the force of opposing arguments, but tenaciously adhere to
affirmed opinions and purposes ; with large Conscience and
Force, are doubly decided wherever right and justice are con-
cerned, and in such cases will never give one inch, but will stand
out in argument, effort, or as juryman, till the last.

FULL — Like Firmness large, show a great degree of decision
when this Faculty works with large organs, but not otherwise ;
with Force and Conscience large, show great fixedness where
right and truth are concerned, yet with Acquisition moderate,
lack perseverance in money matters ; with moderate Force and
Dignity, are easily turned ; and with large Friendship and
Kindness, too easily persuaded, even against better judgment ;
with Caution and Ambition large, or very large, often evince
fickleness, irresolution, and procrastination ; and with an uneven
head, and an excitable Temperament, often appear deficient in
this Faculty.

AVERAGE — When supported by large Force, or Conscience,
or Causality, or Acquisition, &c., show a good degree of this
Faculty ; but when opposed by large Caution, Ambition, or
Friendship, evince its deficiency, and have not enough for great
undertakings.

MODERATE — Lack perseverance, even when the stronger Fac-
ulties support it ; but when they do not, evince fickleness, irres-
olution, indecision, and lack perseverance ; with Friendship large,
are too easily persuaded and influenced by friends ; with large
Caution and Ambition, and moderate or small Dignity, are flex-
ible and fickle, and go with the current, &c.

SMALL — With activity great, and the head uneven, are fitful,
impulsive, and, like the weather-vane, shift with every changing
breeze, and are ruled by the other Faculties, and as unstable as
water ; changed by the slightest motives, a perfect creature of
circumstances, and accomplish nothing requiring perseverance.

TO CULTIVATE — Have more a will of your own ; make up
your mind wisely, and then stand to your purpose ; be sure you
are right, then hold on ; surmount difficulties, instead of turning

aside to avoid them; resist the persuasions of others; begin nothing not worthy of finishing, and finish all you begin; consider the rewards of perseverance; give up nothing till it is completed; let no obstacles turn you from your proposed course; never allow yourself to be persuaded contrary to your better judgment; steadily resist temptation, and remember that those who hold out unto the *end* alone are crowned; especially, never yield in the least where *right* is concerned. *Moral* decision is a virtue of the highest order. Firmness and Conscience are located side by side, and should always support each other in character. Hope is also located upon the two sides of the fore part of Firmness, so as to work in conjunction with it; and nothing is calculated to excite Firmness more than confident hopes of success; and the two combined form one of the strongest elements of efficiency and success.

TO CULTIVATE IT IN YOUTH, be careful not to require them to do what they cannot complete, nor allow them to leave anything unfinished. Let them be taught to accomplish all they begin. Making children servile, and requiring strict obedience, is apt to weaken this Faculty.

TO RESTRAIN — Remember that you are too obstinate and persistent, often to your own loss; at least listen to and duly consider the advice of others, and govern Firmness by Intellect and Conscience, not allow it to govern them. Those who, mulishly stubborn, will not see their errors, or, seeing, change, should be especially careful not to decide till they are sure they are *right*, nor ever commence anything not best; then hold themselves open to conviction and correction, and remember that their excessive Firmness is liable to so blind their intellects that they cannot perceive the full force of evidence brought against them; and that they are too hard to be convinced, too inflexible, &c. Still, of well-directed Firmness no one can have too much.

PART IV.

MAN'S MORAL NATURE AND RELATIONS.

THE FUNDAMENTAL PRINCIPLES OF RELIGION.

193.—MAN MORAL, AND RELIGIOUS, BY CONSTITUTION.

A MORAL GROUP, equally with a social, intellectual, etc., is disclosed by a phrenological survey of the human head. Our first engraving virtually establishes this foundation *fact* on which rests the entire superstructure of this Part, by pointing out its location on the top of the head. This fact places this whole subject of religion upon the solid basis of tangible *demonstration*. Let those who doubt the existence of this moral group in man learn its location, and *see* for themselves.

THIS EXISTENCE of certain moral and religious Faculties and organs in man creates whatever appertains to morals and religion. As we must first BE before we can put forth any of the individual functions of existence; so the phrenological *fact* that moral Faculties are inherent in man, constitute an integral part of his being, are interwoven into his physical Nature by cerebral organs, and into his moral by this incorporation into it of spontaneously acting mental Faculties, constitutes the deep solid corner stones of all morality and religion, and of this our proposed religious temple.

Its ample development elevates the head above the ears, and elongates and widens it on top, as in the engravings of Tyng and Wesley, while its deficiency leaves it low, flat, and short on top, as in Hagarty, the Indian Brave, etc. Woman has generally a larger development of this group than man, and accordingly is much more religious.

MORAL SENTIMENTS LARGE.



No. 144.—REV. DR. TYNG.

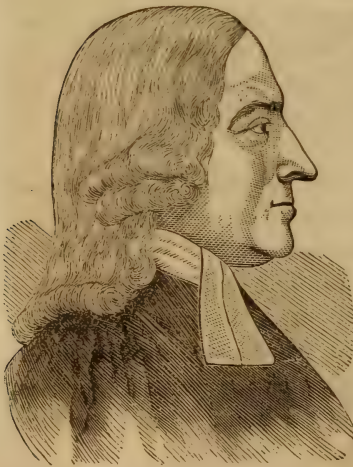
SMALL.



No. 145.—HAGARTY, MURDERER.

A MORAL DEPARTMENT of Nature then exists. Man is *created* with certain religious aspirations as much as with affectional, or any other. Religion, then, is no myth, but a veritable reality; not a creature of education, but a primal, fundamental, natural institute. What then is its foundation? To what is it adapted? On what does it rest?

LARGE.



No. 146.—REV. JOHN WESLEY.

ON FUNDAMENTAL MORAL ENTITIES inherent in the constitution of all things, with which each Faculty puts man in relation; each holding precisely the same philosophical relationship to its specific moral entity which Love holds to the opposite sex,¹⁷² Appetite to food,⁹⁰ Causality to causation, Dignity to inherent worth,¹⁸⁹ Form to configuration, and every other Faculty to its natural object.³ Thus:

FOOD EXISTS; man needs to eat it, and is adapted to this fundamental arrangement by being created with a feeding *Faculty*, which unfolds and governs whatever appertains to ali-

mentation. Some eating conditions, those which conform to this entity, are beneficial, others injurious, but all that can be said and done, all there is, touching eating, grows out of this inherent feeding entity and its laws. It so is that individual things exist, of which it becomes necessary for man to take cognizance. To do this, he is endowed with

the Faculty and organ of Observation, the constitutional action of which brings to his notice whatever it is necessary that he see; and everything connected with things, or depending thereon, has its foundation and counterpart in this constitutional existence and function of Observation. In these relations consists the rationale of this Faculty, and of all connected therewith. It is so that man enters the world in a condition so utterly helpless, that succor of some kind, assistance from some quarter, must be had, or all children must die, and our race soon become extinct. Hence the rationale of Parental Love.¹⁷⁶ None will dispute that all the relations of parents as parents, to their children as such, grow out of this *constitutional* existence, function, and adaptation of this Faculty to its counterpart. And all that we have to do for, to, or with them, is simply what this Faculty requires should be done. Beauty exists, and appertains to all things; and man is created with a Faculty to perceive, enjoy, and apply this natural element, which acts spontaneously whenever beauty is presented to it; and whatever can be known concerning it this Faculty teaches. This is deep, but clear, goes to the bottom of the ladder of things, and applies to man's moral Nature. Thus—

It so is that man both enjoys and suffers, and can enhance the pleasures and pains of others. To this natural fact Kindness is adapted, and adapts man. This is its foundation, beginning, and end, and the complete analysis of this Faculty discloses whatever appertains to this entire department of Nature and of man. He is constituted to adore a Supreme Being, as to sleep; and the complete exposition of this Faculty teaches us all we can know, and all there is concerning God and His worship, its times, modes, places, frequency, character, effects, etc., as also whatever appertains to His attributes, works, government, requirements, and our entire duties and relations to Him. So Conscience likewise exists; and when we know all that Phrenology can teach us of this Faculty, its conditions of action, combinations, dictates, requirements, and nature, we shall know all that man can know as to what is right and wrong, good and bad, sinful and holy; of duty, penitence, pardon, rewards, punishments, natural and artificial, and everything, little and great, connected with this whole department of the Nature of man. Not that either of these organs *singly*, without reference to their combinations and other relations, will do this, but that all which can be known of all the Faculties in all their *combinations* with all the others, and everything else bearing on them, will do this. Similar remarks

apply to Hope, and a future state; to Spirituality, and a world of spirits, spiritual admonitions, impressions, existences, etc. No attempt to go back to the beginning of the moral and religious nature of man has ever before been successful, and the reader is earnestly solicited to become thoroughly master of this point, before he proceeds. Reperusal and mature reflection, it will certainly require, but give them. This subject itself will repay you. So will the great truths unfolded in subsequent pages. And the very bottom of all is the *happiness* enjoyed in the right exercise of these moral Faculties. What is the reason of the existence of any and every Faculty of man? The substratum of all? To render man happy in the exercise of each. Thus, as Parental Love is based in the infantile condition of man, this infantile condition itself is based in the happiness of both children and parent. As Appetite is based in that arrangement of man's Nature which requires food, so this arrangement itself is based in the happiness of man. As Beauty is based in the constitutional existence of the beautiful, it itself is based in the happiness its exercise confers on man. So of each of the moral Faculties. The reason or the rationale of Kindness is, that its exercise is conducive to the best interests of man. From this bottom of this whole subject, let us ascend and examine, step by step, piece by piece, individually and collectively, all the constituent vessels and portions of this wonderful temple of the moral and religious Nature and constitution of man.

RELIGION is as necessary as any other human Faculty. Man could no more exist without it than without Appetite, or thrift, or the family, or business. God puts nothing into man not *necessary* to his well-being, and even *existence*. Churchism is as much a human necessity as a market, and will no sooner be generally ignored. Man will continue to worship as long as he continues to eat or breathe. Have no fear that he will ever cease to be religious any more than cease to till the soil; for both are engraven away down into his primitive constitution, and can no more be eradicated than love or music; nor even decline. He will never be any less religious than he always has been, for as his past religion was an outgrowth of an inborn instinct; so his future religious predisposition is *guaranteed* by this same inherent religious element. What God inserted into humanity He inserted to *stay*. Ministers need not concern themselves lest man should cease to be religious, or even become indifferent to religion, any more than to dress, or food, or money, or pain, or children; but they and all others should concern themselves to *rectify*, sanctify, and

properly *direct* this God-adoring sentiment. Men will be religious while grass grows or water runs ; but a wrong religion, like a wrong diet, will do him irreparable damage, and the more damage, the more beneficial a right one is. Not till he ceases to relish luscious fruits will he cease to "hunger and thirst after" religious light and incentives. And as he loves good fruits better than poor, and wholesome than poisonous, so he will seek the best and truest religion attainable. All apostates prove only that their abandoned religion was unsatisfactory.

194.—RELIGION A NATURAL AND DEMONSTRABLE SCIENCE.

FIRST PRINCIPLES govern Nature throughout,¹⁹ and therefore this her moral department. She is a complete *system* of causes and effects, not of isolated parts ; and all parts are governed by her natural laws. *Mind* is governed by them. They create that "higher law" code, the decalogue being but its partial summary, in which all natural rights and duties originate ; of which the duties of debtors and creditors, husbands and wives, parents and children, are but a few illustrations among *millions*. These fundamental moral laws, by governing every action and feeling, render even every breath, turn of the hand and eye, right or wrong, and prevent any from being neutral.

MORALS ARE SCIENTIFIC. That is scientific which is *sure* ; and that is sure which is governed by natural laws. Man's moral and religious Nature exists,¹⁹³ and constitutes a part of Nature, and therefore has its governing natural laws as much as matter its in gravity ; and they reduce whatever appertains to morals and religion to that same scientific certainty to which mathematical laws reduce mathematics. Is the sun sure to rise on time forever in the future as past, because governed by gravity ; and will not right to-day be right forever, as it ever has been ? So equally of God and His worship ; of whatever appertains to a future life, and to all forms of moral obligation and duty. What is duty to-day, in given circumstances, has been and will be duty forever, under the same circumstances ; because rendered so by unchanging natural laws. So of theology, of a future life, and of all else moral and religious.

READER, after you had demonstrated the correctness of a mathematical sum, would a thousand other demonstrations add to its certainty or truth ? So no amplification of this truth can make it any more sure or true, but only more fully understood. This problem is important. We erect the entire superstructure of this Part upon it.

Please scan it thoroughly, and try to comprehend its length, breadth, dimensions, and foundations. Is it not as solid, broad, scientific, and sure as is Nature herself? Therefore :—

RELIGION IS AN EXACT SCIENCE. It has its natural laws. These laws render it exact, fixed, and scientific. Since there are sciences of mathematics, projectiles, chemistry, everything, because of their respective laws, therefore is there an absolute, a fixed natural science of religion; but if there is no science of religion, then nothing in Nature is scientific. If religion is not a science, then mathematics are not. If natural laws do not govern man's moral Nature, then they govern no part of Nature. If natural law governs anything, it governs all things, and morality and religion just as much as the motions of the heavenly bodies. If all Nature is not chaotic, then man's moral Nature and relations are not. Reader, just see if you can break this argumentative chain; for presently we shall bind with it. Examine beforehand whether it holds good.

RELIGIOUS TRUTH, then, *exists*. It has a being. It is a natural entity. It has its governing laws of eternal right and wrong, which appertain to, and govern you and me, reader, along with all who have ever lived or ever may live; are incorporated into the primal constitutions of all men; form an integral part and parcel of all; appertain to all the deeds, feelings, and doctrines of all; and are forever binding on all, at all times, and under all circumstances. Not till we can "flee from the sun and the air, ay, from our own very *selves*, can we flee from the presence of omnipresent *right*." Nor should we wish to, for who would desire to flee from *light*? then why from eternal right and duty? What would be gained, how great would be the *loss*, by fleeing from either! As light makes us happy, so does right. As we should love sunshine for itself, because it makes us happy,¹⁵ so should we love eternal *right* for the same reason. Both were alike created, and rendered universal, in order to secure an inexpressible amount of enjoyment, in ways innumerable.¹⁹³ Let us love and study the latter as we do the former; yet all of us, though we should love and appreciate both with all our powers, will fall as far below their intrinsic value and loveliness as the finite falls below the infinite.

RELIGIOUS SCIENCE IS COGNIZABLE. It was instituted to be obeyed by all,²⁴ and all are given Faculties for understanding them, and those very Faculties which *constitute* us religious beings, also teach us universal moral and religious truth and science.

SECTARIANISM IS "WITHOUT EXCUSE." Truth is one, and always

self-consistent, never self-contradictory. Does ever any mathematical truth clash with any other truth? Nature is a unit, so is truth. If Daboll's Arithmetic said two and two make four, and Greenleaf's that two and two make five; if a thousand and ten different arithmetical teachers, each having its own "seminary," taught that two and two make each a different sum, what would you think of each? or how long study them? or how much *money* pay out in their support? Would they be entitled to either? Or if one geometrician taught the "pons asinorum" problem as true, and a thousand and ten geometrical teachers taught each a result differing from all the others, and in conflict with all, how long would you, would any who are sensible, study, listen to, and uphold them? If a thousand and ten different physiologists, each the advocate of a different kind of food, taught that *his particular* kind was alone fit to eat, and calculated to nourish body and mind, while each of the thousand and nine other kinds of food, pronounced good by all of the other physiologists, were bad, innutritious, indigestible, injurious, and even poisonous, how much respect would you, would community have for such physiological teachings? how much *pay* for their lectures? Would you not justly say, "Professors, each and all, first *agree among yourselves* before you solicit, or we bestow, patronage."

DOCTORS disagree. Does this clashing of schools signify truth, or error? If all were in the truth, would not all agree? Is such agreement not a *condition precedent* to all truth? So plainly so, that all further argument is supererogatory.

ONE THOUSAND AND TEN different religious sects or denominations are or have been among men, some as diametrically opposite to each other as Orthodox and Universalist, Trinitarian and Unitarian, Catholic and Protestant, Mohammedan and Christian, Jew and Infidel, Buddhist and Pantheist, Mythologist and Atheist, each alone claiming to be "ordained of God," and guided by inspiration. Let each say how worthless are all the others.

PHARISEES AND SADDUCEES contended, one for, the other against, the resurrection.

SOME APOSTLES differed from others, some being for Paul, others for Apollos, and "The Fathers" quarrelled violently, though all four belonged to the same sect.

THE COUNCIL OF TRENT contended so fiercely as to tear itself, and that sect it represented, asunder, as Infallibility is now rending it again; nor are any wars as bitter or bloody as those about religion. Did not the Inquisition practically proclaim that religious heresies and

dissension were so numerous and dangerous as to demand repression by the utmost agony man could inflict and suffer? making pain an *art*, as a warning to others?

LUTHER flaked off from the Pope, Calvin from Luther, Episcopalians from all, and Methodists from them; and every new year witnesses some new sect, or sub-division of some old, while "Old School" and "New," "High Church" and "Low," and dissensions in every religious body, great and small, including every vestry, and the ever differing beliefs, *ad infinitum*, among all the individual members of all religious denominations, only prove how far all, one possibly excepted, are from religious truth.

DRS. LYMAN BEECHER AND WILLIAM E. CHANNING were each great religious lights in their day, to each of whom millions of intelligent and well-meaning religious followers looked up for biblical interpretation and guidance. Both were eloquent speakers and cogent logicians and writers, and as perfectly honest and sincere in their biblical researches and interpretations as men could be; and yet both were in perpetual antagonism. Each according to the other, imbibed and taught the worst of heresies, and all from the same identical passages!

DRS. PARKS AND WOODS, even both belonging to the *same* denomination, and Presidents of Andover Theological Seminary, pronounce each other heterodox, and in nearly every church some member calls some of his brother members unsound, or else "infidel." Now all this is utterly without excuse, because there is an exact religious science, and all are capable of perceiving it; so that all can and should "see eye to eye, and face to face." Religious truth can be found, if looked for in the right place.²⁴ Who would say that arithmetical truth could not be found anywhere, because it was not in geology, or optics? As mathematical truth can be found only in mathematics, geological truth only in geology, etc.; so moral and religious truth can be found only by searching aright for it in its specific department of truth, man's *moral* constitution,¹¹ which we are now exploring in its search. These *toto cœlo* differences only show on how low a plane religion still remains; and all who love it should mourn them, and most heartily set about righting them; that is, improving the religious doctrines of mankind.

CHARITY is effectually taught by this difference. Many who differ from you are at least as good as you, and have as good judgment in other things. Then respect their judgment, not virtually tell them that you alone are right, and all who differ from you wrong.

195.—ALL THEIR OWN PRIESTS AND PROPHETS.

PERSONALITY appertains to everything, animate and inanimate. Every human being must eat and breathe, enjoy and suffer, for himself, and every beast do his own walking and running, while every fowl and insect must fly and feed for itself, and every plant grow and bear *in person*.

RELIGION is governed by this law. Every man is righteous "*for himself*, but he that sinneth, he alone shall bear it." We can do up many things by proxy; but religion is not one of them. Others can make bargains, pay moneys, etc., for us, but every individual soul must worship *for himself*, and do his *own* thinking and praying *in propria persona*. Pinning our religious faith on other people's sleeves will never ticket us for heaven, nor to its antipode. As "those who want anything *well* done must do it *themselves*," so those who would reap the full benefits of a right religious theology or practice, must worship "under their *own* vines and fig trees."

PERSONAL religion, too, is alone of any practical avail. Getting our religious "thinking done out" does us no good. As when a teacher deciphers the boy's "sums" for him, they do him no good; so all the religious thinking done for you by priest or theologian is worthless to you. As only when scholars cipher out their *own* sum do they understand it, or does it benefit them; so only when the layman himself thinks out any religious problem is he benefited by it.

THE MORAL AND INTELLECTUAL LOBES are located side by side, as seen in engraving 1. All organs whose Faculties are designed to act in concert, are located side by side; and all thus located, spontaneously thus work together. Heart and lungs, nose and mouth, eyes and optic nerves, all joints, all grouping of the phrenological organs and Faculties, etc., furnish illustrations of this law. Therefore this juxtaposition of the moral and intellectual organs shows that their Faculties were created to act with each other in *combination*, and their joint action creates a disposition to reason on religion. Theology results from such union, and is just as natural to man as smelling of food before tasting it is to animals.

POLEMICAL theology, caused by super-adding Force to these two groups, is therefore written into the human constitution. Reasoning from their ever-varying standpoints, each differs from all, and all from each. As in mechanics, one man makes one discovery, and another another, all perfecting all; so each one contributes his quota to this great religious problem. Men were made to differ in

their views of religion as well as of other things, till all men think just right, when all will see "eye to eye, and face to face."

REASON is the great enforcer of all truth. Showing any child *why* he should mind, is the most effective means of securing obedience.⁶⁵³ By a law of mind the upper-Faculties should and do rule.²⁵⁰ Since the moral organs are supreme, because located on top of all,¹⁹⁶ the reasoning organs are equally supreme,²⁵⁰ because located on the same level, but still farther forward; and the two *together* should harness all else human into their triumphal car. Nothing can ever be fully realized which we cannot understand. Parrot-like learning is of no account in anything. "*Understandest thou what thou readest?*" Saying the Lord's Prayer correctly in Greek, without understanding it, does no good; nor does getting one's religion done us by proxy. Let the following anecdote illustrate:—

THE AUTHOR lived many years at Fishkill, on the Hudson River, sixty miles above New York city. A steamboat plied between Fishkill and New York, furnishing then our chief transit to that city, by starting about 6 P. M., and landing us next morning. Of course neighboring passengers must kill time somehow from 6 P. M. to bedtime; which was often done by groups discussing, now farming, then politics, and sometimes religion. On one trip myself and a neighbor Armstrong conducted a discussion on religion, somewhat as follows:—

"NEIGHBOR ARMSTRONG, we have found you a first-rate neighbor, an excellent tinman, and a smart sensible man in town-meetings, conversation, and speaking generally. Then, pray, how is it that you were first a zealous Orthodox, then an ardent Methodist, next a Unitarian, at length a Universalist, then an Infidel, and finally a strict, almost bigoted Roman Catholic? Can you give any *intellectual* reason for all these religious tergiversations?"

"PROFESSOR FOWLER, I claim to have a good *reason* for all I do. I was *brought up* an Orthodox, but its Calvinistic self-contradiction of foreordination and free-will made me give it up for something less inherently absurd. I found Baptism no better, but Methodism was, because it taught less election and more personal free-will; still I found many mysteries and some effervescent zeal.

"UNITARIANISM, however, relieved me of my Calvinistic difficulties, but had its own, in its negatives and omissions, while Universalism at first seemed in keeping with the known 'goodness of God,' and was at least a *pleasing* doctrine; but how could good and bad here stand alike after death?

"FINALLY DISGUSTED, in turn, with the errors of all, I sought refuge in the cold, lifeless doctrine of negation, wandering, like Noah's dove, over the face of the waters, vainly seeking a resting-place for the soles of my religious feet, which was worst of all, till reflection finally brought me to this satisfactory conclusion,—

"ALL MAN NEEDS to know about religion Christ knew and taught to His disciples, and they to their almoners ; so that, therefore, 'the Holy Catholic Church' is the repository of whatever religious truth God has seen fit to reveal to man, and sufficient for his salvation. Accordingly, I accept what the Holy Catholic Church teaches as inspired truth, letting her do my thinking for me."

"LET THIS CHURCH EAT your dinner for you, then, or at least 'open your mouth and shut your eyes and blindly swallow' unchewed and untasted, whatever she puts into it."

INDIFFERENCE is one of the evils of this proxy piety. Those who accept their doctrines second hand do not at all realize the force and import of what they seem to believe. A proxy believer in "eternal burnings" either has no belief in it, or else no conception of its import. He believes "hell fire" awaits all not converted. He knows his neighbor is not thus converted, and if he should die as he is, "the lake which burneth with fire and brimstone" is his *eternal* doom, from which repentance and faith *alone* can save him. And yet, *mirabile dictu*, he makes no effort to induce this saving repentance. They meet, talk about the most trifling things, any, everything *but* his "soul's salvation." If he *does* really believe this doctrine, and is thus indifferent to his neighbor's conversion, he is a monster. He is a disbeliever, or else a heathen. Let him and his acquaintances say which.

THAT NEIGHBOR'S HOUSE is on fire. He sees the smoke bursting from the lower story while his neighbor and family are in the upper. He knows that when this smouldering fire *does* once burst out, all chance for their escape is cut off, and yet *lets them slumber on unalarmed!* Every dictate of humanity demands that he "cry aloud and spare not" till his neighbor is roused and saved. He believes in prayer, yet prays for him very tamely, if at all. Let those who claim to believe in this doctrine say whether they are infidels or brutes—infidels, if they do not believe; worse than brutes if they do, yet put forth no efforts to avert this "wrath to come."

A CONJUGAL MATE thus endangered, or a dear child, only makes this matter still worse. An intellectual realization of this doctrine would make them wild and *frantic* for their deliverance.

READER, it is your sacred, solemn duty to be religious. You have no more right to be indifferent to religion than to children, or wife, or debts; yet proxy religion makes you so. Your sacred *duty* is to have a right religion, and a *live* one, which enters right into, and sanctifies your innermost *soul* and life. All this requires that you *study up* and *search out* religious truth with your *own* head, that you may

incorporate it into your feelings and life. Let every man be his own theologian, and religious teachers be to religion what school teachers are to school studies.

196.—MAN'S MORAL ORGANS HIGHEST, AND FACULTIES SUPREME.

THE SUPERLATIVE DEGREE appertains to the human functions as much as to other things. They stand relatively, "good, better, best;" "high, higher, highest;" "positive, comparative, superlative." Then what test admeasures their relative elevation?

THE ALTITUDE of their organs in the head. All functions are the more important the higher up their organs. Fruits, seeds, nuts, the ultimate end of each, grow on top. Feet, located the lowest down, fulfil the menial function of all; yet the lowest bodily organs, higher up in position, fulfil a function more important; for whereas feet are handy articles, yet we can live without them, but cannot live long without these lower organs, or with them disordered. But heart and lungs, located still higher up, are still more indispensable to life, while the brain is located above all.

THE SEVERAL PARTS of this brain must needs be governed by this law of altitude, so that its Faculties must be the more exalted the higher up their organs in the head. The basilar or animal organs are indispensable, yet less elevated than those aspiring, self-elevating Faculties located in the crown.

THE MORAL Faculties occupy the very top of the head, and are therefore highest of all. Learn, in engraving No. 1, this great natural truth, that the moral group occupies the whole of the very upper portion of the human head, that crown of man; thus signifying that these moral Faculties are the highest part and parcel of the mind of man, as this mind is of the human being.¹⁸

BEHOLD, O man, these two great moral truths demonstrated by Phrenology—that man is a moral and religious being by constitution,¹⁹³ and that this department stands towering in dignified majesty above all its peers! Does *this* smack of infidelity! Would not men be the better, the more they had of *such* infidelity? Mark this great practical lesson taught by this principle, that

THE MORAL SENTIMENTS SHOULD GOVERN MAN.

A SUPREME COURT governs all law-abiding nations. Its decisions are final, and override and overrule all else; just as these moral Faculties constitute the appellate court, the final umpires of all things human. Accordingly, *moral* men are the most honored among men.

Blackstone and Marshall stood first as jurists, because of the conceded justice of their decisions; as Howard for missionary prison labors. We honor hearty feeders, hard workers, battle-scarred soldiers, Heenans, Sayers, and all physical champions; honor kings and potentates by virtue of their position; honor artisans and inventors; but, after all, men honor *moral* excellence above all other gifts and qualities. What of honor men award to Washington is awarded to his *virtues* more than to his intellectual or martial genius. He would not tell a lie.

IN NEIGHBORHOODS, who are most honored and trusted? Those who are the most moral and upright. Are not church-goers honored because they go? That is, they fulfil this moral requirement.

CHRIST, too, who must needs fulfil this prerequisite, has received the homage of all Christendom, and will do so forever, not because of personal beauty or strength, nor of His animal propensities, or aristocratic observances, nor even of commanding talents; but chiefly for His exalted moral virtues. RELIGION was His crown, as it is that of His followers.

MAN'S MORAL FACULTIES RULE him. The religious of the race always have controlled it with supreme authority. All individuals and communities are what they are because of their religion. Change *that* and you change them. How many men and women have been completely revolutionized by their religion? Paul was changed by it from a persecutor to a defender of "Christ crucified." How many a swearing, immoral man has a religious "conversion" made a good, patient citizen, and an exemplary Christian! Reader, what do you suppose you would have been to-day, but for its power over your life? Men cannot well enjoy even their passions, without the assent and actual *participancy* of their moral sentiments. Sensual Grecians and Romans must have a sensual and sensualizing religion; and so both "got up" an imaginary Venus, beautiful, but sensual, to whom they built temples, in which to provoke and indulge this amatory passion to its utmost; besides worshipping their other gods more for this trait than for any other. Their strong Appetite must make Bacchus a god, so that they could drink and carouse in the name of piety. They loved taste, statuary, poetry, and eloquence, and hence made Minerva a goddess, so that they could unite this sentiment with religion. Human beings can rarely enjoy what their ideas of conscience and religion condemn. Where can such instances be found?

MORMONS must make polygamy a *divine* institution, a direct God-commanded *duty*, in order to enjoy it; as they have made some other

propensities. In fact, men weave everything they desire into their religion. This is but the history of the race from the first, and must necessarily continue to be; for it is a fundamental natural law of man. The Fathers, Calvin included, felt the need of some strong motive to help check their fierce propensities, and so called in a passion-curbng religion to their aid. The Oneida community wanted everything in common, even the sexes, and got up an "all things in common" religion. In phrenological language, all the other Faculties harness themselves into the triumphal procession of religion. They may flex it this way or that, but will not go without its lead.

A RIGHT STANDARD of morals and religion, therefore, becomes as immeasurably important as a right and a wrong religion is potential for good or evil upon man. All should tremble in view of the power theirs wields over them, and tremblingly inquire, *What is the right religion?* We proceed to investigate this august problem.

XVIII. WORSHIP; OR "VENERATION."

197.—ITS DEFINITION, LOCATION, AND ADAPTATION.

THE CHURCHGOER—Devotion; adoration of God; reverence for religion and things sacred; love of prayer, religious rites, observances, etc.; obedience; conservatism. Perverted it causes idolatry, bigotry, superstition, etc.

"Lo, the poor Indian, whose untutored mind
Sees God in clouds, and hears Him in the wind."

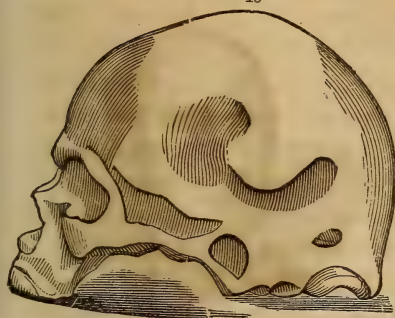
"Reverence" does not express its primitive and specific function, but *worship of God* does. We therefore call it **WORSHIP**.

IT IS LOCATED on the middle of the top of the head, and can be found thus: holding your hand over the head, drop your second finger down as near on the middle of the top of the head as possible, and you are on this organ. It is directly under the sagittal suture. Its predominance causes a swell in the middle of the top of the head, like that on Diana Waters⁴³ engraving 147. In most American and in many English heads it is deficient, as in 148.

We constantly find in devout persons the posterior mean part of the superior half of the frontal bone projecting considerably. It is large in Diana Waters, Heber Kimball, next in Piety to Brigham Young, Father Oberlin, Tyng, Wesley, Bishop White, and in many others, but small in the murderer and others. The contrast between Diana Waters and the murderer is marked.

WORSHIP VERY LARGE.

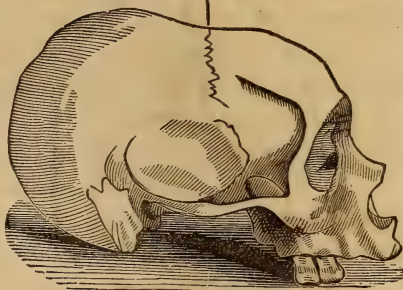
18



No. 147.—DIANA WATERS, who went about Philadelphia praying and exhorting all she met to repent and pray to God.

VERY SMALL.

18



No. 148.—A NEGRO MURDERER, who IGNORED ALL RELIGION.

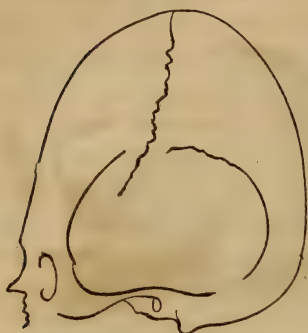
A negro in Wilmington, Del., about 1840, the grandson of an enslaved African prince, murdered his brother-in-law. He had never shown much regard for religion, and all the efforts of ministers to elicit devotional feelings while imprisoned under sentence of death where quite nugatory, and made him very angry. In him Worship was very small, in head and character.

THE MODE of discovering this Organ and Faculty attests both the truth of its existence, and that its office is faithfully embodied in the definition above given. Let Gall, its discoverer, speak for himself:—

“All my ten brothers, sisters and myself received the same education, but our Faculties and tendencies were very different. One brother, from infancy, had a strong tendency to devotion. His play-things were church vases, which he sculptured himself, copes and surplices, which he made out of paper. He prayed God, and said masses all day, when obliged to miss church service, and passed the time in ornamenting and gilding a crucifix of wood. My father had designed him for commerce, for which he had an invincible aversion, because, he said, it compelled him to lie. At twenty-three, having given up all hope of fitting himself by study for a priest, he lost all patience, ran away from home, and turned hermit. Five years after he took holy orders and till his death, lived in the exercises of devotion and penance.

“I observed in schools that certain pupils were indifferent to religious instruction, while others were very eager for it. This preinclination was *born* in them, and could not be attributed to example or education; and most of them devoted themselves to a religious life, contrary to parental wishes. I visited the churches of all sects, to inspect the heads of those who prayed with the most fervor, and were most absorbed in their contemplations; observed that the most fervent devotees were almost always bald, and that their heads often rose

WORSHIP VERY LARGE.

No. 149. — ANCIENT MEXICAN, FROM
THE TEMPLE OF THE SUN.

VERY LARGE.



No. 150. — HEBER C. KIMBALL.

gradually to the top—precisely the form of head which had first struck me in my brother ; visited the monasteries and observed the monks, and collected exact information as to their devotional character. Those who performed the functions of preacher and confessor had this organ much larger than their butlers, cooks, and servants. All those who were especially devout, have heads greatly raised towards the crowns, and that the portraits of zealous religious ecclesiastics had the same formation, and also that ancient artists represented the heads of high-priests and sacrificers with venerable heads thus formed.

“In the lunatic asylums of Amsterdam we saw a madman in whom this organ was large, and who said he could not be saved, because he was forced to sin contrary to his will. An ecclesiastic, who said he was condemned to eternal burnings, had this same form of head. Elizabeth Lindemon had this organ very large, and kept raising her eyes to heaven, testifying sadness and anguish in all her looks and gestures, alleging that she was possessed of a devil, who tried to draw her into hell.

“In the collection of M. Esquirol are casts of religious lunatics, in all of whom this organ is extremely developed. It was also unusually large in a brother and sister, peasants, who were attacked periodically with a religious insanity.

“IN THE HEAD OF CHRIST, by Raphael, the organs of the propensities are deficient, whilst, on the contrary, His intellectual and moral organs, or those which indicate sagacity and penetration, Benevolence and Worship, are greatly developed. Is this form imaginary, or a faithful copy of its original? If artists, in making it, have copied the shape most commonly found in great and good men, their observations confirm mine; yet the general form of the head of Christ has probably been *transmitted* to us. Luke was a painter, and doubtless wished to preserve the likeness of his master. This form is certainly one of great antiquity, for we find it in mosaics, and the most ancient paintings, the Gnostics of the second century possessing it.

RELIGIOUS mania often coexists with the other active Faculties in

health; sometimes with physical love, causing its coexistence with erotic desires; at other times with murder, or suicide, or Pride, or Fear, or Sympathy. A deranged hussar manifested an intense desire for the salvation of the whole human race, constantly calling the Holy Trinity to witness."—*Gall*.

"This faculty is the source of natural religion, and of that tendency to worship a Supreme Being which manifests itself in almost every tribe of men yet discovered.

"This organ was large in King Robert, the Bruce, who was enthusiastically religious, and ordered his heart to be carried to the Holy Land, because he could not fulfil his vow to visit it in person.

"It is possessed by all men, but in different degrees of power. Every sane individual is naturally capable of joining in religious worship, but each will experience a glow of devotional feeling more or less intense according to the development of this part of the head. The difference in the strength of this emotion is certain, independently of Phrenology; so that this science reveals only the relation between its intensity and the size of this organ.

"It is large in the portraits of Constantine, Aurelius, Charles I., of England, and Malebranche. In the portrait of St. John in the Last Supper, by L. Vinci, it and Benevolence are represented as very large. It is also very large in the heads of philosophers and poets who are distinguished for piety, as in Newton, Milton, and Klopstock, but deficient in Spinoza, who professed atheism."—*Combe*.

"We cannot deny certain difficulties in dissipating those illusions which belong to a very exalted devotional fanaticism. How can we bring back to sanity a madman puffed up with pride, who considers himself an envoy of the Most High, a prophet, or even a divinity? What arguments can offset his visions and revelations, doubting the truth of which makes him furious? Nothing is more common in hospitals for the insane than alienations produced by too exalted devotion, scruples carried to fatal excesses, or religious terrors."—*Pinell, the highest Authority extant on Lunacy*.

"It is thus shown by the states of both disease and health, that the sense of the existence of a Supreme Being, and the propensity to religious worship, are fundamental qualities of the human race, and consequently must be produced by a separate Faculty of the mind, and organ of the brain."—*Gall*.

RELIGIOUS INSANITY is its most common form. Most readers must know persons deranged on religion, who are sane in all other respects. This proves that there is a separate *Faculty* of religion, which can act *independently*.³⁴ What proof need or could be stronger of any fact than this is of the existence of a primal *element* of devotion?—the specific point we are now making.

TURKISH HEADS, as seen in ¹⁸⁵, rise so much higher in this region than Christian that they can be *assorted* by this sign and Caution, and Turks are ten times more zealous and bigoted in their religious observances than Christians; drop everything for devotion when prayer

time comes; make their canals crooked because God makes rivers crooked, and piously go away round instead of straight across, because *God* knows just how to make the best watercourses; and propagate their religion by the sword, because they love it so devoutly.

TRIBES OF MONKEYS are described by travellers which assemble every morning, obviously for religious worship. "Obviously," because they have the natural language, tones, manners, and awe which accompany devotion, have their spokesman; and dogs sometimes attend church regularly, with the attitude and mannerism of divine worship. Undoubtedly this sentiment

"Lives in all life, extends through all extent."—*Pope*.

"THERE is not a single nation, however barbarous, so destitute of laws or morals, which does not believe that there are gods. This belief is as ancient as the existence of the human race. Nature herself has engraven this idea into all hearts; otherwise, it is too sublime for man to conceive.

"This idea brings with it religious rites and forms, an assemblage of religious duties, such as humility, homage, submission, gratitude, and hope. Hence men's endeavors to render themselves agreeable to God is as ancient as is belief in a God. Men always have been led by an instinct, a secret impulse, to acknowledge an omnipotent Being.

"Hence the origin of idolatry, and the well-merited reproach that 'man is a superstitious animal.' The seas were peopled with tritons, naiads, etc., the country with nymphs, and the forests with dryads and hamadryads. Every stream, fountain, village, and city had its divinities, who exacted honors, and were appeased by bloody sacrifices, even of human victims. Add to all this the adoration of trees, the idols of the Chinese, the palladium of the Trojans, the sacred buckler of the Romans, the universal confidence which men have in talismans and amulets, in divinations, dreams, and oracles, all showing that from east to west, and north to south, all men have like objects of adoration, modes of worship, and religious maxims.

"How should men, so different in all other respects, yet agree on the existence and worship of a Supreme Being, unless their Creator had implanted it within their hearts, and impressed it into the organism of the human race?"—*Gall*.

PHRENO-MAGNETISM still further attests that the specific function of this cerebral organ is divine worship.⁴⁴ In every single instance, every magnetized Faculty expresses itself impromptu, incomparably more perfectly than any actor could possibly represent it; and in thousands of experiments I never magnetized Worship, without also seeing the subject clasp and raise the hands in the attitude of worship, assume a devotional aspect and tone of voice, and express a desire to pray, or else break forth in the worship of God, enraptured in con-

templating Him. Thus is the *worshipping* function of this Faculty established by Phrenology beyond all dispute. No proposition in geometry is more fully proved than this.

THOSE DENOMINATIONS who are especially attached to their rituals and church services, such as Episcopalians, Catholics, etc., have this part of their heads high and long; and so have the Methodists; and the *high church* and *old school* conservative wings of all denominations have it much larger than the progressive "low church" and "new school" wings.

GALL called it, "Sense of the existence of a God, and propensity to religious worship."

THE FACT of a disposition to worship a Supreme Being is coeval and coequal with the existence of the race. Find man whenever and wherever you may, you find him a worshipping being. Egyptians and Persians, Chaldeans and Jews, the Amalekites, Perizzites, Hittites, Ammonites, and all other ancient ites, had their gods. Chinese and Hindoos, Grecians and Romans, Mohammedans and Christians, worship some kind of a god, gods, or goddesses, to whom they ascribe all power, and acknowledge the most implicit allegiance. What Indian tribe or individual but adores "the Great Spirit," and fears to displease Him. Black Hawk, in whom this organ was very large, says,—

"I never take a drink from the cooling spring, or enjoy anything, without thanking the Great Spirit for all his goodness to me and my tribe."

IN SCORES of Indian casts, taken from life, in American and English phrenological collections, and in every single Indian skull the Author ever saw,—and he has seen thousands,—this organ has been very large; as also in every Egyptian mummy's skull, in all Fejee Islanders, and in every single Chinese and Hindoo but one; and accordingly their religious observances sway supreme control over their conduct, and even lives. Nearly all Africans, native and American, evince strong religious proclivities, and take their greatest delight in devotion. The inhabitants of Madagascar, of the Pacific Islands, Arabs, Tartars, native Caucasians, Calmucks, Russians, Poles, French, English, Scotch, Irish, all the inhabitants of the earth, now and ever, are or have been religious. The trouble is not to say who *are* religious, but who are *not*; and their religion has been *supreme* over all their other interests. Only love bears any comparison with religion in power over men. They love money much, but religion more. The Jews

devoted one-tenth of all they produced to their priests ; and the Mormons pay over one-tenth to their religious leader with pious pleasure, despite their large families. Where is the human being who has never feared, loved, or worshipped the great Architect of heaven and earth, the All-potent first Cause of all causes ? Standing upon the top of some lofty eminence, which commands a view of some vast, variegated, indescribably beautiful plain below, loaded with Nature's choicest treasures, and skirted with yonder bold cliffs and rugged mountains, rising one above another till they hide their majestic heads in the clouds ; or beholding, in mute astonishment, the cataract of Niagara, in all its sublimity and grandeur ; or watching the swift lightning, and hearing peal on peal of roaring thunder ; or witnessing the commotion of the elements, and the raging and dashing of the angry seas ; or examining minutely the parts of flowers, and the adaptation of every part to the performance of its own appropriate function ; or the organs and adaptations of our own wonderful mechanism ; or, indeed, scrutinizing any of the innumerable contrivances and adaptations with which all Nature teems ; where is the moral man, endowed with an intellect capable of perceiving these wonders and beauties, whose heart does not kindle with glowing emotions of adoration and praise, rising, not alone to Nature herself, but mainly to her *Author* ! Who has never realized the existence of a Spirit in Nature analogous to the God of the Christian ! And if, perchance, in some dark corner of our earth a human soul should be found, which never acknowledged this sentiment of Divine worship, just as there are some whose Color is too small to perceive the colors of the rainbow, does this prove that this sentiment does not *exist* in any *other* soul ! Shall the blind man, who can see no sun, assert that therefore there is none ! Shall those who cannot see guide those who can ! Shall those who experience this heaven-born emotion be argued out of its existence, because, forsooth, some self-made atheist says *he* has never experienced it ! If one does not, another does, and our argument rests not on the fact that *all* experience it, but that *any* do. If, from the first opening of the eyes of Adam upon the surrounding beauties of creation, down to the present time, a single human soul has poured forth a single heartfelt offering of prayer and thanksgiving to a Divine Spirit, he has exercised some *organ* and Faculty in doing this, and that is Worship. Man adores God. As well assert that sun never shines, as that man never worships a Spiritual Being. What mean yonder towering steeples, yonder houses erected in every town and hamlet, in

Christian and in Pagan lands, to the worship of God! What means yonder Hindoo widow, voluntarily ascending the funeral pile of her departed husband, or that mother committing her darling child to the deified waters of the Ganges! Seest thou yonder towering pagoda, yonder temple of Juggernaut, yonder thronged mosque, yonder altar, reeking with human gore, just offered up in sacrifice to a god, yonder solemn convent, and crowded sanctuary! Hark! Hearest thou, in that secret closet, the soft accents of heartfelt prayer and praise to the Almighty Giver of every good! Look again. Dost thou see yonder domestic group, bowed down around the family altar, all offering up their morning and evening sacrifices of prayer and thanksgiving to the God of every mercy and blessing, and supplicating their continuance! Do these not sincerely worship a Deity! Indeed, nothing is more plain, no fact is more apparent and universal than that *man does worship God*. And the amount of this worship is inconceivably great. It is natural. He can no more live and be happy without adoring a God, than without reason, or any other equally essential Faculty.

SOME FACULTY AND ORGAN exercise all this worship. Every other is completely engrossed in performing each its own function, leaving no other to exercise this devotional feeling. Parental Love, completely engrossed in loving and providing for children, has no time, no capacity to worship. Force is wholly engrossed in resisting and defending, so that it cannot worship; nor is it capable of exercising any other than its own appropriate feeling. Appetite is all taken up with table luxuries, and too greedy ever to think of anything else. Acquisition is exclusively occupied in hoarding, and does nothing but save. Caution, full of alarms, does not, cannot, worship. Beauty is so completely absorbed in contemplating and admiring the glowing beauties which throng in upon its delighted, ecstatic vision from every quarter, that, though it may admire the beauties of creation, it cannot worship their Author. Causality, though it may reason out the fact of the existence of a great First Cause, yet does not, cannot fall down on the bended knees of devotion, and worship Him; because, to investigate and apply causes is its sole function. Its constitution precludes its exercising any other. Similar remarks apply to Kindness, to Comparison, to each of the intellectual Faculties, to each of the propensities and feelings, and to every mental and moral element of man, so that there remains no other organ or Faculty but this to exercise this worshipping function.

SOME IMPORTANT function is performed by every Faculty.³ The absence of any, as of Causality, would leave a great hiatus in the human mind. If all power of observation were destroyed, if Weight were entirely inert, so that we could not stand or move, if any one of man's Faculties were annihilated, the chasm, the "aching void" thus created, would be inconceivably great; because every Faculty performs a function indispensable to man's existence.³⁴ Worship, therefore, has some important function, the loss of which would spoil humanity.

THE UNIVERSALITY of this sentiment proves its innateness. This God-adoring tendency is either natural, or artificial. It is too powerful to result from habit, and too universal to be the product of education, which can only call out, not create. We could as soon educate a man without eyes to see, or a tongue to talk, as one without Worship of God to adore one. As if eating were educational and therefore irksome it would soon be neglected and lost; so unless this devout sentiment is innate, and like breathing a part of his very self and life, it would soon decline and cease. Nothing but its being constitutional could cause or account for its universality, perpetuity, or tremendous power over man. If men were taught to walk on their hands, who would long continue to walk thus, or teach it? Only those who felt its supreme *importance*. No; it is *not* taught; it is rendered constitutional by man's having been *created* with a primitive *Faculty*, whose sole *office* is to worship God. Whence those words in all languages which signify God and His worship? From this worshipping impulse.

Here is a distinct class of functions; of course they are executed by a primal mental Faculty. If there is any truth in Phrenology, there is truth in this organ and Faculty.

THE DETERMINING question is this: Whence comes man's admitted tendency to worship! What rears religious temples wherever men go, and throughout all ages! What pulls all these huge piles of money out of the pockets of even close, sharp business men, who never spend one dime without getting back a *profit* on it somehow! Whence all these religious paraphernalia of churches, ministers, meetings, sacred music, denominations, religious books, periodicals, disputes, and all that! Whence Juggernaut (probably tantamount to Jupiter)! Does all this come from *education*? Education may bend a twig, but cannot *create* one. A worshipping instinct must *be*, before it can be flexed. We have already proved that this worshipping Faculty *exists*.

THE ACCUMULATIVE force of this argument is worthy of special

attention. The mode by which this Faculty was discovered, and the great number of individual facts adduced in its support, are conclusive evidence that man is *created* with a God-worshipping sentiment and instinct. The fact of religious insanity, which can be rationally accounted for on no other hypothesis, but can be on this, and the universality of man's divine belief and worship, taken collectively, overwhelmingly prove, beyond cavil or controversy, that this divine idea is *innate*, not educational, *constitutional*, not artificial, an integral *part* of his nature, not a fungus, and *inherent*, not a parasite. We therefore consider this point established. All phrenologists maintain it. Gall propounded it, and Spurzheim took precisely the same view of it with Gall, merely changing its name, and both the Combes followed in the footsteps of both; while both the Fowlers, with their almost half a century of just that practical manipulation of the developments of all ages and classes calculated to test this organ by inductive experiment, coincide perfectly with the phrenological fathers as to both its location and function; and all other phrenologists, how much soever they may differ from Gall on other points, accord with him on this.

198.—ANALYSIS AND COMBINATIONS OF WORSHIP.

LARGE WORSHIP places God as supreme up on the throne of the soul, and makes His homage a central duty; creates the highest degree of divine love and adoration; gives extreme fervor and delight in prayer and religious ordinances; experiences a deep awe of God and things sacred; feels true devotion and fervent piety, and respects superiority; adores God as the centre of all hopes, fears, and aspirations; sets all the world by religion; makes church-going and religious observances a paramount life duty and pleasure; is shocked by profanity; and creates obsequious reverence for the ancient and venerable, for time-honored forms, ceremonies, and institutions.

IN COMBINATION with small Dignity, and very large Caution and Conscience, and diseased nerves, it creates a feeling of the utmost unworthiness, self abasement, and guilt before God, with a crushing sense of vileness and sinfulness; perpetually dreads Divine wrath, and is liable to religious gloom and melancholy, which should never be indulged; with large Hope and Spirituality, worships Him as a Spirit, and hopes to be with and like Him; with large Ideality, contemplates His works with rapture and ecstasy; with large Sublimity, adores Him as infinite in everything; with large reasoning organs,

gives clear, and, if the Faculties are evenly developed, unperverted and correct ideas of the Divine character and government, and delights to reason on theology; with large Parental Love, adores Him as a Friend and Father; and with large Kindness, for His infinite goodness, etc.; with large Causality added, as securing the happiness of sentient beings by a wise institution of law, and as the great first CAUSE of all things; with large and perverted Caution mingles fear and dread with worship; with large Construction and Causality, admires the order and system evinced in His architectural plans, contrivances, etc.; with large Friendship, takes heartfelt pleasure in public religious worship, neighborhood prayer meetings, etc., and with large Parental Love added, earnestly desires the conversion and salvation of friends, and prays fervently for these objects, besides enjoying family worship; but with small Continuity, is annoyed during devotional exercises by wandering thoughts, yet strives against them, and finds difficulty in keeping the mind on the prayer and sermon, besides preferring short prayers and sermons, and disliking prolixity, but liking variety; with large Force, is polemical, and defends religious doctrines with great warmth and spirit, and with large Destruction added, is severe and harsh on opponents, and with large Firmness and Dignity superadded, is ritualistic and very set and bigoted in religious matters; adheres blindly and tenaciously to particular tenets and forms of worship, and denounces those who differ therefrom; with Firmness moderate and Spirituality large, will often change religious opinions and connections, and yet be very zealous in all; with large Secrecion and Ambition, and only moderate Conscience, will make quite a show of religion, be ostentatious, join some fashionable and aristocratic church, and put on a fair outside show of religion; yet neglect duty, disregard justice, violate moral principle, and then take shelter under the cloak of religion; will "have the *form* of godliness without its power," and be worldly week days, yet a strict *Sunday* Christian; with large Conscience, Causality, and Comparison, will delight to study theology, and the character, attributes, laws, and works of the Deity; contemplate and adore His perfections in Nature; adopt consistent religious doctrines and practices; search earnestly after religious truth; and be an honor to the Christian name and profession.

FULL—experiences a good degree of religious adoration whenever circumstances excite it, but allows the stronger Faculties frequently to divert it, yet prays at least internally; with large or very large Con-

science and Kindness, places religion in doing right and doing good more than in religious observances, and esteems duties higher than ceremonies; with strong propensities, may be devout upon the Sabbath, yet is worldly through the week, and experiences some conflict between religious and worldly feelings and aspirations.

AVERAGE—adores the Deity, yet allows the larger Faculties to overrule it; with large Friendship, Kindness, and Conscience, loves religious meetings, so as to meet friends, and prays for the good of mankind, or because duty requires attendance, yet is not habitually devotional, except when this Faculty is especially excited by circumstances.

MODERATE—is not particularly devout or worshipful; with large Kindness and Conscience, if religiously educated, may be religious, yet will place religion more in works than faith, in duty than prayer, and be more moral than pious; in prayer, will supplicate blessings upon mankind, and with Conscience large, confesses sin more than expresses an awe of God; with large reflectives, worships no farther than reason precedes; with moderate Spirituality and Conscience, cares little for religion as such, but with large Kindness, places religion mainly in doing good, etc.; is not conservative in religion, but takes liberal views of religious subjects, and is religious only when this Faculty is considerably excited; with large or very large Conscience and Kindness, if religiously educated, maintains a consistent religious walk, and “does *works* meet for repentance,” yet pays comparatively little regard to religious *creeds* and *observances*; is zealous in reforming the world, and “converting men from the error of their ways,” yet despises sectarianism, and regards only the “*weightier* matters of the law;” makes great sacrifices in order to *do good*, promote pure morality, and prevent sin, yet is not particularly devout; makes the chief burden of petitions to the throne of grace consist in confessions of sin and supplications for mankind, rather than in adoration and worship; follows the dictates of personal conscience, even though obliged to forsake “the good old way,” and adopt new measures; thinks more of *doing good* than of attending religious meetings; lives an upright and consistent Christian life, and performs all the *essentials* of religion, yet pays little or no attention to meats and drinks, etc.

SMALL—experiences but little feeling of devotion, or love of religious worship as such; will manifest little deference or respect for parents, teachers, or superiors; and be deficient in the heart, and soul, and fervor of devotion; will not be very pious, nor at all particular in

observing religious ceremonies, nor especially impressed with a feeling of solemnity and awe while engaged in religious exercises.

With moderate or small Conscience and Spirituality, has very little regard for religion; seldom, if ever, attends religious meetings; and goes then from other than devotional feelings; is little affected by solemn or religious exercises, or appeals to conscience, or fear of offending God, and influenced but little by the restraints of religion; doubts almost everything connected with religious belief; is irreverent, irreligious, unprincipled, and sceptical; and, with large Mirth, and Imitation added, inclined to ridicule religious people and services by mocking them; and with large Force, Destruction, and Dignity super-added, opposes everything pertaining to religion; denounces it as a delusion, by which designing men impose upon the simple and unsuspecting, etc. Worship small, with large Love, Honor, Ambition, and Beauty, attends church more to see the other sex, and be seen by them, than to adore God, and selects the most fashionable and stylish churches; with Expression added, goes to hear eloquent preachers, and with Tune large, to hear good music, but not from love of religion.

The descriptions and combinations under Worship moderate, apply also to this organ small, after making due allowance for its diminished force.

199.—WORSHIP ADORES A GOD; THEREFORE A GOD EXISTS.

ADAPTATION is a paramount ordinance of Nature. Sun, air, earth, water, fire, man, etc., are all mutually adapted to each other. Light and eyes are thus adapted; as are teeth and tongue, mouth and throat, food and stomach, bones and muscles, heart and lungs, and thus of adaptations innumerable.

ALL ADAPTATIONS of anything to another, prove the existence of both. Thus, we find one half of an oyster shell expressly adapted to its other half; could any proof be stronger, that this second half was created, expressly adapted to this found half? And does not their existence, and their adaptation to contain an oyster, prove absolutely that an oyster was created specifically adapted in size, shape, and everything, just fitted to their united cavities! The knee-pan is adapted to the knee; could or need proof be stronger that a knee was created precisely adapted to every knee-pan ever created! Skulls are adapted to hold and protect the brain; was *any* skull *ever* created without the co-existence of its brain adapted to it! Was a finger-nail

ever created without its own finger, an eye or a tooth without its individual socket, or socket without its eye or tooth? scalp without skull, skin without body, half joint in the end of one bone without the other half in its co-working bone! and so on *ad infinitum*? Nature is one great whole, not made up of disjointed fragments. Those who do not perceive and admit this truth have neither observation nor sense, and are unworthy of notice.

How MONSTROUS a blunder!—blunder? crime—to create eyes, and a seeing desire and instinct, without also creating light to supply this natural want! thereby keeping all in total darkness forever! Every animal is adapted to feed on some special aliment;⁹² how unjust not also to create its specific food! How outrageous to create this eating instinct without food to sate it! lungs without air! bones without muscles! muscles without bones! taste without beauty! need of clothes without any clothing material! stomach without food! thirst without liquids! or any great human want without that to which it is adapted!

MAN EXISTS adapted to Nature, while all Nature is adapted to man. He has specific Faculties adapted to this, that, and the other requirements of his Nature; and finds in Nature that which specifically supplies each want. Among his other natural inherent impulses is one for worshipping God; therefore this instinctive desire has likewise its legitimate object and supply. Does Nature ever falsify, or stultify herself! Does she ever hoist an *ignis fatuus* only to humbug her creatures by inciting them to run tandem after a nonentity! Would she lead us all, by an impulse we can no more resist than hunger, to fall down and worship a phantom? or something which does not exist! Those who say aye, are quite welcome to their ideas of Nature, and no philosophers, but downright *fools*. They have neither eyes nor reason. Away with such self-stultified nonsense.

MAN IS CREATED with a Faculty of his mind, and an organ of his body, expressly adapted to worship a Supreme Being; therefore a God exists specifically adapted to receive the homage this Faculty prompts him to pour forth. What proof of any problem, even mathematical, could be any stronger! It has but two conditions—that man is adapted to worship God, and that the existence of one thing in Nature adapted to another, proves the conjoint existence of both. The first is a matter of sight and touch. This organ is easily found.¹⁹⁷ Now see whether those who are large, rounding, and full here, are or are not also devout worshippers of God in some form, and do or do not experience

a strong feeling of sacred awe and reverence. They may worship idols, or sacred images, or ministers, or in this sect or that; may be pantheists, "looking through Nature up to Nature's God;" but they will worship some God somehow. They may have it small, and yet be strict Sabbatarian worshippers from duty, or fashion, or spirituality, or other motives; or have it large, and discard all sects, but will worship what is a God *to them*.

THE ONLY OTHER prerequisite to render this proof of the Divine Existence absolutely demonstrable is this law of adaptation. Who will jeopardize their reputation for sense by denying *that*!

A PART OF NATURE, a part and parcel of man, a portion of his anatomical structure, a Faculty, a great section of his *mind*, that very highest part of Nature, and of the body, together with the most exalted and central function of the human mind, is adapted, and adapts man, to loving and worshipping God: therefore a Supreme God *exists*, adapted to *receive* this spontaneous human love, adoration, and worship. No proof of any natural truth, not even that two and two make four, is any more absolutely demonstrated.

A COMPARISON of the force of this proof with that usually relied on, —Paley's, the Bridgewater's, etc.,—is worthy of a moment's attention. Paley, *et al.*, are arguing to convince an Atheist that there is a God, thus:

"EVERY CAUSE must needs have its own legitimate effect. This is an axiomatic truth. The eye exists, and therefore has its cause; and if that cause is not primal, this secondary cause must have its cause, and so on till we arrive at the Great First Cause of all things in a God."

"GRANTED ALL, and as much more like it as you please, but pray, Messrs. Paley & Co., from your *own* showing (with a roguish twinkle in the eye, thumb to nose, and fingers playing antics), pray what is the cause of *God*; for, by your own argument, this God, too, in common with all the other causes, must also have *His* cause. Gents, your argument is a rope of sand. It has no tact. Its therefore has no *wherefore*. If *this* is all, good morning."

NOT SO our argument. Its therefore has its *wherefore*. A God exists, because Nature, in her highest aspect, is *adapted to one*.

AN ATHEISTIC CLIQUE in Philadelphia, in 1838, were defiantly challenging ministers and laymen by name to meet them anywhere, at any time, in their own churches, and before their own partisans, if they chose, to discuss the being of a God, immortality, etc., not from the Bible, but from all other sources of evidence. The Author accepted their challenge, and made the preceding argument. Their

leader,¹⁸⁹ a man of great mental calibre, having a forehead of rare height, breadth, and reasoning developments, concluded the debate substantially thus:—

“FELLOW ATHEISTS, I give it up. You have chosen me your atheistic leader. I resign your leadership commission, for I am an Atheist no longer. I have scanned, with whatever intellectual acumen I possess, which you have thought considerable, all the arguments of Paley, the Bridgewater Treatises, Good’s Book of Nature, and all else I could find on this whole class of subjects; have challenged and discussed with all the ministers who deigned to meet me; and thought over in my own mind this problem of the Divine existence, without ever finding so much as a reed on which to found an intelligent proof for the being of a God. They all lack *cohesion*. *Non sequitur*—this does not follow from that—applies to all their arguments. All have some fatal flaw in premise or conclusion, or oftener in both. Up to this glorious hour I have been a conscientious atheist; but am one no more.

“I ALWAYS WANTED to believe in a God more than others wanted me to, but could accept no dogma, no assertion, nothing without *proof*. Whatever I admit must come through my *understanding* and reason. *This phrenological proof of a God I can understand*. Like all of Nature’s other truths, it is just as plain as arithmetic. Its inferences *fasten to its premises*, so as to leave no loophole, no chance for doubt or cavil. It is short, to the point, absolute, and demonstrative. From having been an atheist, I become a deist, a godist, and shall hereafter follow out this same mode of phrenological investigation, and learn all I can from it touching this whole subject of theology. Words cannot tell how much pleasure I experience in at last planting my foot on *terra firma*, in being enabled to worship God *understandingly*, a course I recommend to you.”

He followed me from city to city, and city to country, saying:—

“Please allow me always to hear, over and over again, these doctrines which have opened the windows of my soul to a Divine existence.”

His club disbanded. All like clubs must break up, when they once fairly see the force of this proof.

EVERY THOROUGH PHRENOLOGIST is a worshipper of God. All the writings of all its fathers breathe a devout spirit. Hear once more Gall’s closing paragraphs on this Faculty:—

“It is necessary that each individual should find and fear in himself a secret censor, a supreme Judge, from whom escape is impossible. Let us take possession of this new *organic* proof of the existence of a God.”

“ALL OUR SENSES are in relation with external objects. Of what use are the mouth, sense of taste, hearing, smell, sight, if in the external world there did not exist *objects* of touch, molecules, emana-

tions, vibrations, and light, adapted to produce savors, odors, tones, and vision? These senses would be incomplete if no external objects existed."

"ALL THE PROPENSITIES of man and animal are predicated each on some external object. The amatory instinct is predicated on the male and female sexes; love of offspring on children and young; and self-defence on enemies; while the carnivorous instinct everywhere finds animals to prey upon; the imperious instinct, persons and nations to subjugate; and the Faculties of place, music, calculation, mechanics, etc., space, colors, tones, etc., on which they can be exercised. Each Faculty would be useless without its specific external object on which to operate. Nature would have trifled with man and animals if, in giving them instincts, propensities, and Faculties, she had refused or omitted the external objects which satisfy each. Their first state would be an agonizing want, their second, death. It is therefore certain that Nature has created no sense, no organ and Faculty, without also preparing for it beforehand a legitimate object for its function."

"IT IS CERTAIN that, in all ages and centuries, man's intuition has led him to acknowledge a Supreme Being, feel his dependence on a First Cause, have recourse to a God, and render homage to Him. Who would dare maintain that this single sentiment is without its object? No; Nature cannot so far wrong men in their most important interest! There *is* a God, because there exists in man an organ and Faculty for knowing and adoring Him!"

GOD IS. A great Supreme CREATOR and Governor of this entire universe, then really and truly does exist! Blow this trumpet over all the earth, forever! Herald this truth throughout creation! Let all the ends of the earth, to its remotest nooks and farthest corners, know that "God ruleth over all." Let bereaved orphans, and all others in affliction, feel that a great "Father of all" exists in *propria persona*, ready and glad to receive the filial homage of all His children. Let all evil doers tremble that all their wicked deeds are known, and will be punished; but let the righteous be bolder than lions, and hopeful of their final reward. Let each and all bow in devout homage and filial love before Jehovah's "blessed" throne, and place their trust in God; assured that all wrongs He will finally right, all oppressors He will bring to justice, all who truly love and serve Him He will finally avenge, and every possible good His fatherly love will finally confer! The very "wrath of man He maketh to praise Him," and restrains what He cannot convert into good to those who love Him aright. "Hosannas in the highest," that all flesh indeed has a veritable eternal God to love, worship, and obey.

O, MAN! Behold thyself allied to angels, and linked to the Creator and Lord of this stupendous universe! Behold heaven opened, and a communication established between thy great God and thy poor self!

Behold "thy father in heaven!" Consider His tender, parental regard for all thy best interests. As thy mother before thy birth knew thy prospective need of raiment, domicile, and creature comforts, and tenderly provided them; so thy God knew thy need of food, breath, and ten thousand other wants, and behold how tenderly He supplies them all! As those are very heathen who neglect to love their mothers, how much more those who neglect the all-provident Author of their LIFE and all its enjoyments! O, atheists, what heathens!

TRUTH IS GLORIOUS, but what other is a tithe *as* glorious as this? All truth benefits man, but what other confers on him blessings a hundreth part as many or as great?

THE SUPERIORITY of this phrenological argument over all others lies in its meeting this objection—

"'TIS EDUCATION forms the common mind;
Just as the twig is bent the tree's inclined."

"Men believe this, that, the other religious doctrine according as they are *taught* either. Those born and reared in the Chinese, or Hindoo, or Mohammedan, or Christian religion, always 'follow in the footsteps of their illustrious predecessors;' and so even of any particular shade of either. All the ancients, enlightened and darkened, all moderns, barbarians and civilized, continue in the respective beliefs in which they were reared. One born and reared a Catholic dies one; and thus of other religious beliefs. Conversions from one belief to another are rare, and even then can generally be traced to some sinister motives. Facts on the largest scale, throughout all ancient and modern history, prove that religion is all *educational*, not innate. Socrates, that great thinker, unable to shake off the gripping power still wielded over him by his early teachings, when ready to die with his last breath exclaimed, 'Now sacrifice the cock to the manes (rooster to the ghosts) in order to prepare me to die?' Rammohun Roy,³⁵ the learned Hindoo Brahmin, a man of commanding natural talents and extensive learning, died a bigot in the religion he was taught. None can ever quite divest themselves, even Socrates could not, of their juvenile religious superstitions, even though they *know* them to be superstitions. Man is religious from *education*, not Nature. Therefore your God-existing argument falls to the ground."

NONE CAN BE EDUCATED to worship till he first has a worshipping *Faculty* capable of *being* educated, any more than a chicken can be cooked before it is first *caught*, and even before it *grows*. Can you teach a tiger to pray, or a cow to cipher! But *why* not? Solely because neither have those primary *Faculties* which pray and "figure up." You can teach a dog to bark at this, and not to bark at that, because he has a barking *disposition* to start with; but can you teach a kitten to bark at this, or even to bark at all? All education is

wholly nugatory unless it is addressed to some pre-existing primal *element* of the mind. Can you teach a dog to eat hay, or to low, or a cow not to? or a duck not to swim or quack? The fact, the mere possibility, that men can *be* religiously educated, concedes the whole argument. As a man can be educated to walk forward, or backwards, or sideways, but must have feet before he can walk at all; so the mere fact that man can be educated at all in *any* religion, proves the pre-existence in him of a primitive worshipping Faculty, as a condition precedent to any and all religious education. Your argument upsets your own theory, yet establishes ours.

"But both Combe and Spurzheim maintain that its office is to inspire deference, respect, and obedience to superiors, create conservatism, regard for law and order, and have even *named* it Combe Veneration, Spurzheim Reverence, while you your own self call it Veneration. Why call that Veneration which means Worship?"

Neither Gall, Spurzheim, Combe, nor the Fowlers differ one hair's breadth from each other as to its *function*; but only as to the *name* most expressive of it. Spurzheim says,—

"My observations induce me to consider it as the special sentiment of reverence in general. By its agency man adores God, venerates saints, and respects persons and things. Its application to religion is very noble; but it also finds many other objects in society." "Let us adore the God of true Christianity in spirit and in truth." "It is the source of Natural Religion, and of that tendency to worship a superior Power which manifests itself in almost every tribe of men yet discovered." "Heretofore we have considered Veneration only as directed to religion, which is undoubtedly its noblest end; but it has also objects and a wider sphere of action in the present world."

ALL CONCEDE that worship of God is its *paramount* function; yet its having other objects in no way prevents its having this: and its having divine worship as *one* of its primal attributes suffices for our argument. Its worshipping God as one of its legitimate functions, though it may have others, proves that it has its legitimate object in God.

But all these views are analyzable by the following, published by the Author in 1842:—

"THIS ORGAN IS DIVIDED. While its back part, next to Firmness and Conscience, gives the devout, religious feeling just ascribed to it, its frontal portion creates respect for elders and superiors, and venerates the ancient and sacred. It is the conservative Faculty, prevents *sudden* changes, and discountenances radicalism. It is usually small in the American head and character, rendered so, doubtless, by the

necessary tendency of our republican institutions. We should pay deference to superiors; show respect towards all; cultivate a deferential feeling in our youth; and discountenance impudence and disorder, or our liberty will become lawlessness, and our republic but an unmeaning name."—*Religion, Natural and Revealed.*

THOUGH REVERENCE FOR MAN, antiquity, etc., is one of its normal functions, yet the argument for a God remains equally strong. The following case is perfectly analogous throughout. The office of Appetite is love of food, which presupposes its existence. This Faculty craves its different kinds, such as meat, bread, fruits, etc., which presupposes the existence of all these various *kinds* of food it legitimately loves. It craves wheat, meat, fruits, and vegetables, which presupposes that wheat, meat, fruits, and vegetables each and all exist. As its loving vegetables together *with* the others presupposes and proves that vegetables exist as absolutely as if it loved *only* vegetables; so the fact that Worship adores and reverences man, proves that God exists just as completely as if it did not create deference for man. This duplicity of function in no way weakens the argument.

200.—THIS DEMONSTRATION OF THE DIVINE EXISTENCE TIMELY.

SEASONABLENESS is an attribute of Nature. Winter comes after fall has stored up in animals the fat needed to supply the additional heat required. When civilization advances so far that man demands coal, steam, and telegraph, they burst upon him; et cet., *ad infinitum*.

A DEMONSTRATION of the divine existence is just now becoming an imperious human want. Heretofore men have been willingly led "by faith," yet are now outgrowing their religious "swaddling-clothes," and demanding something larger, newer, better.

"THE CHRISTIAN EVIDENCE Society is giving lectures in London under very high patronage, with a view to 'meet the various forms of unbelief prevailing among the higher classes,' but they do not apparently succeed. Although archbishops and bishops take the chair and learned professors deliver lectures 'of the most abstruse character,' according to the reports, but very few persons attend."—*Correspondent.*

YON GLORIOUS GOD OF DAY, while pursuing his diurnal revolution on the all-potential Fourth of July, 1776, looked down upon and lighted up the most puissant event in the annals of time, one perhaps excepted. Though only a band of then rebels were merely signing a parchment, yet they were signing both the death warrant of all past wrongs, delivering of the race from the thraldoms of the past, and issuing a commission of universal liberty of thought, speech, and action.

In a little room in an inland town they were *revolutionizing the race* throughout all its minutest habits of thought and action, and blessing every individual inhabitant of this whole earth forever after!

A CENTURY, almost, elapsed before the nation fully realized that it was free; but it was. Not politically merely, nor even mainly, but intellectually and *morally* as well—free to *think*, and to worship God, each one under his *own* moral vine and fig tree. The greatest good of the greatest number was that day declared the fundamental law throughout the whole earth, and all castes and privileges were stricken down!

ALL-GLORIOUS FOURTH! None at all realize *how* glorious—how great, how fundamental the good thus effected! Revolutionary Patriots, all hail! Let all you disenthralled shout your hosannas forever—throughout eternity as well as time! Let all worship God under the stripes and stars, on that birthday of freedom! And foreigners even more than “those to the manor born.” For thee, our country’s flag, we praise God forever, for thou first taught men to *think*, and on *religion*. You undermined and upset the dogmatic errors of past ages; annulled priestcraft; and began to usher in a millennial glory of individuality in religious thought.

GREAT changes commence slowly; so did this. Men are only just beginning to dare to think for themselves. Before, they met some bull, anathema, excommunication, all of which are now emasculated. All the leading minds of the race are out on religious foraging expeditions on their own hooks—setting a bold example of independent investigation. “Vicegerents” are being shelved. Men are everywhere saying,—

“WE HAVE BEEN FED on these stale sectarian husks, rehearsed for the ten thousandth time, long enough. Give us something else, or we go somewhere else, or not at all.”

MEN LITTLE REALIZE where each other stand theologically. Intelligent men by millions, sharpened by business discipline, are applying business principles to their religion, virtually saying in practice,—

“THESE CREEDS and ceremonies, this church-going and camp-meeting enthusiasm are better than nothing, yet poor enough, in all conscience. Our women must have some recreation, some religious idol to worship, something to dress for, some assemblage for the exhibition of their wardrobe fineries, some great fashionable show-room, where all can show their toilet paraphernalia to all, and envy and be envied by each other.”

"MY WIFE AND DAUGHTERS take real delight in dressing up in splendid style and the latest fashions ; yet what would be the use, unless they had some great *sorïée* in which to exhibit their *tout ensemble*. To this end 'service' is peculiarly adapted."

"CHURCHISM is a good thing all round. The lower classes require it to keep them passably straight, while upper-tendom needs it as a fashionable resort and amusement. I myself like to see be vies of handsome ladies elegantly dressed, and put upon their propriety, pretty charms, looks, and ways, and find it in 'service.' I like to hear good singing and speaking, both of which it furnishes. I like some popular object of charity, where my liberal donations are duly praised, and find it in 'the church.' I like a weekly respite ; this gives it. I like to have my children and clerks under some moral restraint, for they need it ; and here it is, and good at that ; and for many like excellences : but as to believing or practising a tithe of these sermons, 'eternal burnings' and all, I don't. They make a good scarecrow for those who require one, and a good 'figure-head' for ton, yet its 'tenets' won't bear much *business* scanning. Still, I *do* wish we could have *something* which would *combine* all the excellences of churchism with solid, tangible religious truth. Its humdrum is almost intolerable."

PHRENOLOGY with its demonstration of the being and attributes of God, just here rushes upon the human stage, and unfurls its banners. It begins where all religion ought always to begin, by *proving the first principles* of religion and morality.^{193 199} It supplies a desideratum as great as a right *theology* is important to man. It meets and refutes atheism, and furnishes an excuse for the follies and vagaries of Christendom by showing *why* men adopt them. It is just as sure to revolutionize existing dogmas as men are sure to go on thinking, and *because* they think.

THE AUTHOR BEGAN his phrenological career solely to obtain the means of prosecuting his theological studies in preparation for the orthodox pulpit ; but had not prosecuted it long before he became enamoured of its moral and religious bearings, and loving religion, yet seeing this science perverted to supporting infidelity, he determined to rescue it from such perversion ; thinking he could do more good in this broad field of religious labor than in the restricted one of a sectarian pulpit ; and this part is the result of that labor.

INTELLIGENCE WILL HAVE a *rational* religion, one which does not every now and then contradict common sense, and which will bear the test of philosophy and fact, and finds it here. Though it is only a blind worshipping instinct—

"What ! Only a blind *propensity*, and just as liable to worship stocks and stones, Chinese images and a Hindoo Juggernaut, as the true God ? We really thought you had propounded a genuine religious

guide, but this *blind* worship upsets the whole. Man may as well have no Worship as only this blind instinct."

THAT SCIENCE of man's moral nature¹⁹⁴ which teaches the being of a God¹⁹⁹ might be expected to unfold, as we shall soon see it does disclose, "the *true* God." Worship alone does not do this, but its *combinations* and laws of action do, as will be seen in its order.²⁰⁷ In revealing a part, Phrenology unfolds the whole. It *analyzes* God, and *guides* this worshipping sentiment upon a *right* object.

201.—DUTY AND PLEASURES OF DIVINE WORSHIP PARAMOUNT.

ALL FACULTIES ARE MADE to be exercised, and for nothing else. Love of the other sex was created to be exercised in the family relations, not to slumber and doze out in celibacy.⁴²⁵⁻⁴³⁷ Parental Love was created to love and nurture our own children, not to lie dead, or to pet a lapdog, and places parents under solemn natural bonds to care for the fruit of their own bodies.¹⁷⁶

A HEATHEN MOTHER, in the City Hotel, in Utica, N. Y., in 1840, was accustomed to let her infant go wholly uncared for from over night until after her ladyship had dined the next day. The ladies in the hotel, tortured by its piteous moanings, begged her to allow them to administer to its wants, but were refused. It died of sheer maternal neglect. What thought we, what think you, of her? That she was "worse than a heathen." Yet she inflicted no pain. She only *omitted* a maternal duty. She committed no sin of commission, yet her sin of omission amounted to infanticide. But for it that dear babe might now have been a stalwart man, blessing wife, children, and neighbors, instead of slumbering in the cold, damp grave. She deserved imprisonment solely for omitting to exercise Parental Love.

We live in society, are solemnly bound by Ambition to observe its requirements, and live reputable, worthy lives, except when she clashes with that "higher law" due to God.¹⁸⁷

A NEIGHBOR in distress has a natural *right* to call on us for relief, for our being created with Kindness, puts us each under sacred moral obligation to exercise it when circumstances demand its action, especially if he is our friend, and still more if a member of our own family; each Faculty creating a sacred moral *duty* to exercise it.

WORSHIP is one of these primal Faculties, and as such imposes on its every possessor a solemn, sacred, bounden duty to exercise it in Divine worship. Not till you can "flee from the presence of the Almighty" can you escape this duty. All are born with it. This

puts all under holy bonds to exercise it. Its being small and feeble, so far from this excusing any from its exercise, only makes it the more a duty. Would weak Appetite excuse you from eating till you had starved to *death*? Would not this very deficiency make it all the more necessary that you pamper and nurture it; that you look assiduously for the most palatable *kinds* of food, and then *coax it up*? Would your banker accept your plea of small Acquisition in lieu of your money due? Would he not justly say, "The weaker it is the more you need to cultivate it," and would "put you through." Or would a man's lack of Conscience excuse him for wronging you? You would retort,—

"Then *cultivate it*, you unprincipled sinner."

ALL ARE BORN with some Worship. *None are ever born without some degree of all the Faculties.* Those born with but one religious talent, in the name of their own best interests, should make the very most of that one by its assiduous culture.⁶⁴ The weaker any organs, the more assiduously should they be nurtured. None are as foolish or as wicked as those who allow weak organs to grow weaker by disuse.

ONE AND ALL whether this Faculty is naturally or practically strong or weak, by all the advantages to be derived from it,—and God did not make it for nought,—as you would cultivate memory, judgment, taste, affection, goodness, etc., by their daily habitual exercise, so cultivate Worship.

THE PLEASURES of adoration are most exalted. Enjoyment accompanies all normal action. As if a man loves his books, or family, or anything legitimate a little, he takes a little pleasure, but if he loves a great deal, he takes a great deal of pleasure; so if a man loves and worships God ten per cent., he takes ten per cent. of religious pleasure; whereas, if he loves fifty per cent., he takes five times the more pleasure. Nature demands that we worship, yet *pays* liberally for all she orders. She is the best of paymasters both ways,—paying for omissions in barrenness. As the more vigorous a man's intellect, the greater his pleasure in intellectual culture, while the fool takes little, yet knows not what he is losing; so our religious indifference costs us the *loss* of all the pleasures it could yield if active. It causes a dearth, coldness, barrenness, a self-abandoned, listless, good-for-nothing feeling through our whole system; while religious fervor imparts a warmth, zest, glow, and rapture, better felt than described.

BEHOLD THE JOY religion gives to that humble colored woman ! Neither cold nor storms, ridicule nor fatigue, nothing can induce her to give up her church. It is her chief delight. Hear her shout "Glory ! glory !" at the camp-meeting. Scan her rude prayer. Does that brilliant lawyer take more interest or zest in pleading causes than she in pleading her suit for mercies and blessings on herself and others ? She is no hypocrite. All she says she feels, she *does* feel, and she says no words can tell how happy she is in "the love of Jesus." Yon rich banker and aristocratic merchant might well envy her her ecstasy.

CAMP AND REVIVAL MEETINGS create almost a fervor of ecstatic joy. Those touching strains of thrilling music bear no false witness, but gush right up from souls brim full to overflowing with a depth and luxury of holy joy "the world knoweth not of."

"BEHOLD THAT NEW CONVERT." Yesterday he was downcast, mbody, almost dumb and palsied, because his Worship was in a reversed state ; but hear him pray, sing, and shout to-day. In his delirium of joy, he clasps his friends convulsively, begging them to participate in his inexpressible happiness. Is all this make-believe ? Look into that face, radiant with holy, happy fervor, and beaming with a rapture of delight words can but mock in their descriptive attempt. Let young converts attest. Only love approximates religion as a source of enjoyment—that end of life.¹⁵ And if religious zeal could but be kept up, it would keep up this ecstasy *pari passu* with it. What if you could not enjoy theirs ? they can and do. If your religious feelings could only be equally wrought up, you too would be equally happy. Consider well its reasons :—

1. THE HIGHEST ORGAN in the human head is Worship. It is on the middle of the top of the head, and the most exalted function in man.¹⁶ Naturally, therefore, the pleasures of its action exceed those of organs located below it. Fighting enemies, making money, getting honors and office, paying debts, prosecuting, studying, gratifying a refined taste, loving and doing for family, etc., make us happy ; but those who would become just as happy as they *can* be, must super-add religion to all else.

2. IT COMBINES in action with, and intensifies that of all the other Faculties. Thus an atheist and a devout Christian have each an equally good appetite, stomach, and meal ; the atheist eating and enjoying it simply as a meal, without any religious flavoring, while the Christian "thanks the Lord" for both food and Appetite ; now does not

the Christian *relish* his meal as much the best as he is the most devout ? His piety produces a calm, quiet feeling most favorable to digestion,¹¹⁶ so that he eats the more, and is nourished the better, the more religious thankfulness he experiences. The Jews enjoyed and digested their sacrificed meat better than any other.

A LOFTY SUMMIT, visited together, gives pleasure *as a scene*, to both, but the Christian sees *God* in fertile fields, meandering streams, grazing herds, fruitful orchards, and magnificent forests, enjoying the scenery, *as such*, equally with the atheist, and then *superadding* the pleasures of active Worship by adoring *God* in flowing rivers, waving grain, and loaded fruit trees. No man can at all appreciate fruits, flowers, scenery, all natural pleasures, unless he

“ Looks through Nature up to Nature’s God.”

TOURISTS, lovers of splendid scenery, put *that* in your scrap-books ! Epicures, intent only on mere gustatory pleasure, flavor your “ roast beef and plum pudding,” your woodcock and sherry, with thanksgiving and praise to their *Author*. This will also keep you from getting drunk.

HUSBANDS AND WIVES, if you would love each other with the highest conjugal glow of which you are capable, love each other “ *in the Lord* ;” for divine love and worship alone can impart the highest zest to your affections. You may love each other well without, but how immeasurably better by thanking God that you were created male and female ; that He has exactly fitted each for the other, physically and mentally ; that you were so singularly brought together ; that He has instituted the parental relations, and crowned your blissful union with darling children to love and rear ; and *such* children—perfect in limb and body, angelic in face and spirit, so lovely, so loving, as only He could make them, etc. And crowns all with the luxury of family worship, bending humbly, lovingly together around His family altar,—His, because He ingrafted it upon human nature, and all knitting yourselves together in love by worshipping Him at home and in church in unison. You who ignore or neglect God can only half love husband, wife, children, and neighbors.

PRAYER-MEETINGS, governed and sweetened by this worshipping ordinance, are excellent and enjoyable neighborhood institutions.

THESE EXAMPLES but show how devotion, in its very nature and constitution, redoubles every single pleasure and function of human existence. As, “ the undevout astronomer is mad,” so undevout

husbands and wives, parents and children, eaters and drinkers, mechanics and lawyers, merchants and bankers, and the undevout everybody are quite as mad. Religion is to life and all its pleasures what sauce is to food, and vanilla to ice-cream. Mere self-interest should induce each and all to cultivate divine love and Worship. As we cannot enjoy a present without being grateful for it; so hearts swelling with gratitude to God alone can enable us to enjoy the bounties and the luxuries of existence.

3. THE SEAT OF THE SOUL is right under Worship, which thereby controls human life throughout. All the states of both are in sympathetic rapport with it. Exalted Worship exalts every other physical and mental function, and palsied Worship palsies all, while frenzied Worship frenzies all.

"What! Worship located over the seat of the soul? What is the soul, anyhow? It has its *seat*? What new fandango is all this? Why, sir, the soul is immortal! Seated in the *brain*? Seated under Worship? Is all this trash? or has it any philosophical warrant? What is that metaphysical abstraction called the *soul*?"

CONSCIOUSNESS constitutes the soul. That very vague, metaphysical entity, usually denominated "the soul," consists simply in the *embodiment* of all the human functions into combined and concerted action.

NOW WORSHIP is located right over this great central seat of the soul already demonstrated.³⁵⁻³⁸ Therefore all its states, good, bad, and indifferent, thrill throughout the entire man, mental and physical.

THE NERVOUS system has its great centre in the middle of the top of the head, right where Worship is located. Two ranges of facts prove this: 1st, those having nervous disorders experience a tender and sore, or else a painful state at this point; 2d, those who are magnetized are paralyzed and benumbed whenever the magnetizer places his finger on this central spot.

WORSHIP IS CENTRAL. Its location is both highest up of all, and central to all; besides being placed right over this seat of the soul, thus commanding the entire being. All parts of the body, every shred and fibre of every nerve, blood-vessel, and organ, report right under its base, and every phrenological organ has its apex right under or at the apex of Worship, while all the other moral organs surround it as nobles their king. It is the central figure of man, mentally and physically—is to all what the commemorative statue is to the monu-

ment it crowns and consummates, what sun is to solar system, that from which emanate all its light, heat, and government. Surely all this signifies that this worshipping *Faculty* is supreme.

WHAT CONCENTRATION of facts could teach and impress any truth more emphatically than all these convergences teach that, as the moral group is the highest group in man,¹⁹⁶ so Worship is the crowning function of this group; that, as is a man's religion, so is the man himself; that religion is the very highest human *interest*; that it can yield more supreme enjoyment, and that of a richer flavor, than any other; that, whatever a man, woman, child, community, or nation does or omits, religion is the first to be done and last to be omitted; and that a right religion confers more good, while a wrong inflicts more evil, than any other human institution? Let us all, then, both be devout, and adore God, but see that we adore the *true* God, with our entire being.

202.—RELIGION AS A RESTRAINT OF THE PASSIONS, AND PREVENTIVE AND CURE OF DISEASE.

THE MIND constitutes the man.¹⁸ In it centre all things human and terrestrial. Sun, earth, air, water, food, and all else were made chiefly for man, and man mainly to *think* and *feel*. Hence God has put mind in as captain-general over everything human. "The MIND's the stature of man." Its states, therefore, control the physical functions. Whether one is healthy or sickly, lives or dies, depends mainly on his *mental* states.¹¹⁶ Dyspepsia has a mental cause and cure, while "the WILL cure" is by far the best of all the pathies, the panacea of man,⁷⁸ rule 18. Who can controvert this premise?

DIVINE TRUST calms the troubled lake of surging worryments with the firm faith that "God worketh all things well." An enemy injures us. Without this trust we would become furious with wrath, smothered or open, which would eat in on our very life force itself, and bring on proportionate sickness; whereas, feeling that "Vengeance is *mine*, I will repay, saith the Lord," as He surely will, for *all* wrong is *self-punishing*,²² will smooth down our ruffled temper, and save wrecking our constitution on the quicksands of wrath.

AN INTENSELY PASSIONATE man, if he indulges his rampant passions, will soon make of himself a physical wreck, a permanent invalid, and shorten his life. *Love and worship of God* give him moral strength sufficient to enable him to curb his surging passions, and preserve his health. No motives equally with piety, with "Thou God seest me; I love Thee too well to transgress Thy holy laws, ordained

for my best good"—will enable us to "resist easily besetting sins." Cultivating love of the Lord keeps temptations at bay.

BAD HABITS can be broken up sooner and more effectually by religious motives than by any other means. Thus you chew, or smoke, or drink; and would gladly reform, yet find your appetites too strong to be successfully resisted without foreign aid. A loving wife, an intimate friend, working with and for you, can tone up your resolution to struggle on, but supplicating the Almighty for strength to conquer, and, as it were, putting yourself under His charge, exceeds all other human means of successfully fighting against all bad habits or evil propensities.

AS A REFORMER AND PURIFIER from sin, religion surpasses all other moralizers of mankind. Not that a tithe of its reforming power is now brought to bear on human morality, but that this power *inheres* in religion. Civilization, together with all its blessings, comes mainly from religion and the family affections. Churches are the best jails, and good religious teachers the best jailors, because they keep *from* jail millions who would otherwise become culprits. Give to true religion but a mere moiety of its inherent moralizing power, and it would make short and sure work of "casting out" all man's "devils" and devilishness; save all expense for locks, bolts and bars, all cheating in business, criminal lawyers, judges, prisons, hangmen, detectives, police, commercial losses and failures, sensualities, and all the money now lavishly worse than wasted on the goddess of Pleasure; and make our earth a perfect paradise in every conceivable aspect. As far as it is promoted, it will effect these ends. And as a personal blessing to individuals, nothing could equal it. And man's present heed of a criminal code only shows how far his present religion falls below doing for him what it might and should do.²⁰⁴

A SICK MAN'S HEALTH is improved by a bright morning ride. The exercise, fresh air, etc., benefit him; but if he superadds gratitude to God for creating so glorious a morning; if he sees *God* in these green fields, blushing flowers, ripening fruits, humming insects, happy animals, and happier fellow-men, does not this devout, exultant, holy *state of mind* contribute more than all else to his recovery? Piety is the best of panaceas, and delightful to take.²⁰¹ This principle applies illimitably to all like cases; but these samples direct attention to the *hygienic* and therapeutic benefits of devotion, as well as to its moralizing, sin-quenching, and sanctifying and elevating effects on human character and conduct.

REALIZING THAT GOD made all our organs, and all parts of our bodies, holy, is a most powerful motive for keeping them from all unhallowed profanations. Parents can make religion a powerful means of promoting filial love, obedience and goodness. In short, there is literally no end to its beneficial applications to human happiness and virtue.

203.—PRAYER; ITS DUTY, AND BENEFITS, AND HOW ANSWERED.

PRAYER, the spontaneous exercise of Worship, is just as much engraven into human life as is love of the opposite sex. Whatever makes religion a duty, makes prayer equally so. And since divine worship is one of man's greatest luxuries, prayer is equally a cheap luxury, with which all should regale themselves. Its pleasures are not surpassed by eating, loving, studying, or any other pleasure known to man; which alone entitles it to universal appreciation and adoption. It conforms us into the divine image and likeness; calms the soul and fortifies the spirits; diffuses a holy joy and heavenly comfort throughout the entire being; and should be practised by all who would enjoy one of the richest of human luxuries. Those who ignore it, little realize of how great a life comfort they deny themselves. They are in this respect what the savage is in reference to letters.

"DOES PRAYING BRING TO PASS what is prayed for? Is prayer really answered? Does it change the course of the Deity, or alter the plans of the Almighty? Does it upset the laws of cause and effect, and substitute prayed-for results in place of legitimate ones? for if not how can it be efficacious?"

PRAYER IS DESIRE, and each is proportionate to the other. Now, *desiring* anything, naturally and necessarily prompts corresponding efforts to obtain it, and this application of appropriate causes to the production of the effects prayed for brings it about, just as we produce a crop of corn, wheat, or anything else. Every single thing we effect is but an answer to prayer. To pray for a thing, and not to put forth corresponding effort to obtain it, is mockery, not prayer; for desire and effort go together, *pari passu*. Neither can exist without the other, and the degree of either is but the measure of the other, and of the efficacy of the prayer; saving the amount of Causality brought to bear upon the end prayed and labored for. Causality alone renders prayer efficacious.

"But we sometimes pray for things beyond our power to effect, and on which causes cannot be, and are not, brought to bear. Thus I

prayed earnestly for the conversion of a certain impenitent sinner, said not a word to him, and used no means, but he was converted, and in answer to my prayers. A mother prays for her son who is far off, and wrestles in spirit for days, but holds no communication with him; still, he is converted. So with hardened sinners sometimes in revivals. So in regard to praying for the sick, and their frequent miraculous recovery, and in cases innumerable where this plausible exposition will not apply."

1. THOSE SPIRITUAL INFLUENCES soon to be demonstrated ²¹⁴ show *how* prayers for an impenitent sinner can operate as a cause to bring him to repentance. Men commune with each other *spiritually* as well as sensibly, and have a spiritual, magnetic, immaterial nature, not always chained down to the body, which, bursting the shackles of clay, leaps over immeasurable space, and knows neither time nor distance, but is indeed and in truth a spirit. This state is pre-eminently a state of prayer. And in this state, though the mother sees not her son with material eyes, nor addresses him with her voice, yet her spirit holds communion with his spirit, and his with hers. Though we see not, speak not to the impenitent sinner for whom we pray, yet our spirit yearns for his spirit, and impresses him with that religious feeling which pervades and engrosses our own soul, which becomes the cause, and his conversion the effect. Every Faculty is catching and diffusive. The exercise of any in one, naturally, necessarily, excites it in another. Anger in one electrifies all around with the same angry feeling. So with the religious spirit. Religious feelings becoming roused in one, excite the same in another. These two combine and re-augment and rekindle similar feelings in the souls of others, and thus the "revival" goes on till the very atmosphere becomes charged with the religious fluid thrown off by so many, which spirit impresses the impenitent, and finally converts them.

2. CAUSE AND EFFECT governs our world throughout. Nothing occurs not *caused*.¹⁹ And this is as true of the world of mind as matter. Now, after the Deity has laid His plans all right in infinite wisdom for the greatest good of the greatest number, the prayers of mortals will neither change His great purposes, nor nullify the laws of causation as to the thing prayed for. Such views of God and Nature are extremely limited and erroneous. This *doctrine* of prayer diminishes nought from its efficacy, yet presents the character of God in a dignified light, and sustains the great arrangement of cause and effect in all its power and universality.

VERBAL AND PUBLIC prayer find their counterpart in Phrenology;

the former in the spontaneous disposition of Expression to clothe thoughts and feelings in appropriate language, and of Friendship, to pray with friends. On these two principles grow both vocal prayer and that social prayer in which one is spokesman for the others. Praying with and for others, intensifies the action and extends the scope of Worship, and thereby increases the pleasure and the profit derived from its exercise.

THE SUMMARY of this argument is this: Prayer is a spontaneous exercise of a human Faculty. It must therefore have its benefits, for all else in Nature is beneficial, and be answered. What folly to pray if prayer is not answered—as great as to hunger without food. That same argument already applied to prove the existence of God from Worship,¹⁹⁹ also applied in like manner to prayer proves that it must be and is efficacious. Yet shall man coax God by prayer to set aside His divine plans and substitute mortal wishes, often short-sighted, instead? Will He upset His cause and effect ordinances just to grant mortal prayers? This breaking in upon His realm of causation is rather serious business. How can prayer be answered without both changing man's inferior for God's superior plans, and also upsetting, annulling, and overthrowing God's cause-and-effect ordinances? without stopping legitimate effects and substituting other than Nature's, totally at variance? Thus, O man.

UNALTERABLE NATURAL LAWS govern our world. All causes produce their specific effects, but *no others*. Man can reach and apply these causes. When he wants warmth, he has only to use the natural means which create it by combustion. When he desires food, he has only to use those natural means which procure, prepare, and eat it. So whatever he desires, he can and does use means to effect. He prays for a given end “in faith, believing.” This prompts and inspires him to use the requisite *means* for bringing it about. If he uses the right means, his prayer is answered. He both prays, and then *himself answers* his own prayers. If he uses wrong means, his prayers become impotent, no matter how zealous. If he uses no means, they are not answered, “faith without works being dead,” and fruitless, like either sex without the other. And the harder one prays the harder he must work; for works alone give efficacy to prayers.

Reader, does this state, and then solve, a knotty problem?

COMMUNING WITH GOD is, however, quite another thing, and moulds into His blessed image, and is discussed in ²¹⁸.

CONFLICTING PRAYERS both confirm these views, and upset those

usually entertained. Thus, when the English and Americans warred against each other, all the prayers of both nations prayed *against* each other, with all the "faith" they possessed,—the English that the Lord would defeat the American arms, and render theirs victorious; while all the Americans prayed with equal "faith and zeal" that the same Lord would put the *English* hors de combat, and render Americans triumphant. And all on each side see the "special providence of God" in all the successes of their nation.

NORTH AND SOUTH, both worshipping the same God and guided by the same Bible, belonging to the same churches and communing at the same "Lord's Supper," and equally sincere, conscientious, and pious, pit their prayers directly *against* each other. All Northern "Christians" accuse all Southern of being "rebels," traitors, and murderers, and pray that God, in righteous indignation, would overthrow them with merciless rout and slaughter, cause Northern bullets to hit and bayonets to pierce Southern soldiers through head and heart, and make the North victorious; while all Southern Christians pray the same Lord to slaughter all Northern soldiers, right and left, day and night, till their remnant is completely subdued! Obviously, the Lord can not answer both these conflicting prayers. One would naturally think He would be confused and bewildered by these belligerent prayers of His beloved "chosen few." His way out of this embarrassing dilemma is plain and simple, by virtue of our principle—"ours?" *His*—of giving the victory to the longest, most, and best shotted and aimed cannon and small arms, most courageous and best disciplined soldiers, and most strategic generals; always, of course, including the most "*sinews of war*."

STONEWALL JACKSON, when the war broke out, prayed all night, so said his father-in-law, with all his glowing fervor—and if he prayed as hard and well as he fought, he prayed very effectively—for the Lord to guide and direct him which side to espouse; and, if mortal man ever was sincere, he prayed most faithfully for a Southern triumph. One prays for rain, another for drought; some for this thing, others for that, *ad infinitum*, and all with equal faith and fervor. What could more conclusively prove that *none* are answered merely *because* they pray, nor neglected because they do not; but that *eternal inflexible causation* governs all things terrestrial, and that *works* alone achieve the things prayed for; yet that prayer promotes those works and thereby helps attain the ends prayed for?

204.—MEN BECOME LIKE THE GOD THEY LOVE AND WORSHIP.

WE ASSIMILATE and affiliate, by an eternal law of mind, with whatever we admire and love. Thus a boy that loves his father, uncle, or mother, etc., involuntarily obeys and becomes like the one beloved. All children, all adults, illustrate this principle. Two friends who like each other, mutually adopt each other's peculiarities, and conform to each other's wishes. A coarse man who loves a refined woman cannot help imbibing and appropriating her refinement, and becoming the more refined the more he admires and associates with her. That "reformed rakes make the best of husbands," has passed into a proverb, because they become like those pure, good women they love; and all men become refined and purified by affiliating with good ladies they admire. "Evil communications corrupt good manners," while good associates improve poor manners. If a good, proper youth who never swears, associates with and comes to like one who swears, or uses slang phrases, he too soon begins to swear and use like phrases; while a swearing man who likes one who never swears, soon leaves off swearing. What law of mind is more apparent in practice? Is it not as much both a fact and a necessity as that a hot iron touching cold ones becomes cold, yet makes them warm.

RELIGION furnishes our best illustration of this law and fact. All nations, all peoples, all persons, are as their religions, and these are as the gods they worship. The Egyptians, in and by worshipping the bull, because of his amatory power and propensity, promoted this propensity in themselves by his worship, just as did the Greeks and Romans by worshipping Venus; while the Ephesians promoted their own and children's chastity, and restrained their Amativeness, by worshipping Diana, the virgin goddess of purity and passivity. Did not worshipping Bacchus make all his bacchanalian devotees gluttonous and drunken? Did not worshipping Mercury for lying and stealing promote lying and theft in those who adored these attributes? Did not worshipping Minerva, as the goddess of poetry and the arts, make her religious worshippers the more poetical and artistic?

YOUNG MAN, if you would *become* wise or good, intellectual or eloquent, pious or profane, refined or gross, admiring and loving your desired trait in others will mould and fashion your character on the model you reverence. Could anything be clearer? What other means is half so efficacious?

THE DIVINITY we worship, therefore, modulates our character into

a like image. If our God is sovereign, austere, vindictive, and punitive, we become the same in our family; but if He is good, just, and loving, we are to our family just what we think He is to us. Worshipping Him as bloodthirsty, makes us likewise bloodthirsty and domineering; while worshipping Him in His works, infuses a like spirit and purpose into us. Could any truth be more obvious? Is any human influence as potential as religion in moulding character and shaping conduct? Then how immeasurably important that each and all worship the *true* God. No means of personal debasement or improvement is half as potential for good as worshipping God as He is, or for evil as worshipping false gods.

RECTIFYING OUR THEOLOGICAL DOCTRINES, thus becomes a sacred human duty, and when thus rectified, let us nestle ourselves right under the brooding wings of His parental affection, and watching His conduct to His creatures, shape ours after His divine model. Let us drink in His loving *spirit* from Him, and then work it out throughout all our feelings and actions.

BEHOLD, O man, in this great human fact, the infinite importance of a right theology, in still another phase. Men can illy afford to drift along, as now, in existing religious contradictions. There *is* a right religious doctrine and practice; let us learn them, and then conform to them.¹⁹⁴

205.—NATURAL THEOLOGY AS PROMOTING RELIGION AMONG MEN.

WHATEVER PROMOTES true religion among men thereby becomes the greatest public benefaction. As he who produces additional grass, cotton, grains, flowers, fruits, etc., thereby becomes a public benefactor, and he a far greater who promotes friendship, conjugal fidelity, parental love, kindness, taste, or any of the human virtues; so he is by far the greatest of all who promotes genuine religion. No philanthropists, no reformers, equal propagators of true religious feelings and lives among men. How, then, can this *summum bonum* be promoted?

CHURCHISM has this for its sole ostensible object. All the sects claim mainly to do this, and to surpass all the others in so doing, and as far as they do, are entitled to the heartiest blessings of those benefited, and all mankind. They oppose each other often, but should help always. They are *co-workers*, not antagonists. Let each provoke all the piety and good works it can, and extend the right hand of fellowship to all the others; for each is doing its own work, which

no other could do. Chinese, if not Chinese in religion, might not be anything, and so of Burmese, Mohammedan, Persian, *et al.* If the untutored Indian did not worship his "Great Spirit," he would not worship anything; certainly not the God of white men, who are cheating, deceiving, robbing, and murdering his wives and daughters thus ruthlessly. And he had by far better worship Him than nothing. So cheer on his religious teachers, or "medicine men." Mohammedanism promotes the worship of Alla, which is something; for its followers never would be Christians, but would be nothing first. Catholicism reaches a certain class, which it brings nearer to the divine throne than could any other motives; for many would be nothing if not Catholics. So Priests, Bishops, Popes, etc., accept a grateful tribute for the good work you are accomplishing. Each Protestant sect is in turn reaching a certain class of minds, and drawing them nearer the "throne of grace" than their members would otherwise get, and as such deserves the gratitude of all the others, and of every lover of man.

PHRENOLOGY, likewise, as in this work, claims the same benediction, in that it reaches still another order of minds, and that by no means the lowest, whom nothing else could reach, and promotes both their knowledge of God, His attributes and laws, and deepens their religious fervor.¹⁹⁹ Then deserves it not the hearty "right hand of fellowship," and "God bless your efforts to make men happier and better by redoubling their devotion and rectifying their theology?" But whether it is or is not thus countenanced, it will *go on* with its work of enlarging, deepening, and rightly directing this religious sentiment.

YET ALL EXISTING "means of grace," all sects, creeds, and oecumenical councils, all presbyteries, synods, churches, and prayer-meetings, all sermons, commentaries, "revivals," etc., etc., are lamentably deficient in wielding over mankind the full power religion ought, and is adapted to wield. The Author heard Alexander Campbell, the last man to slander or belittle religion, say, when preaching to the President of the United States, to the Chief Justice of the Supreme Court, the Secretaries of State, War, etc., Senators and Congressmen, substantially,—

"CHRISTIANITY, under the preaching of the twelve Apostles merely, spread in a few years over all the then civilized world; superinduced the day of Pentecost and brotherly love; kept the people from their heathen temples, many of which it closed; with much more of like import; and yet, with all the millions of money and thousands of

missionary lives spent by modern Christianity in sending the gospel to the heathen, not one Christian temple has ever yet been raised by heathen hearts and hands to Almighty God! Missionary stations are now held by brute force. Withdraw their missionaries to-day, and to-morrow scarcely one vestige of their moral influence could be traced upon the habits and lives of the people among whom they are planted.

"ONLY A MOIETY of the nations profess Christianity, and of Christian nations only a mere fraction are Christian communicants; and many of these, judging from their lives, make religion their outer garment, to be put on and put off at pleasure. Could a sharp business man select church members from among his customers by their being the most honest and straightforward, and the least slippery?"

HE UTTERED MUCH MORE of a kindred import. But whether he was right or wrong, religion to-day wields but the merest fraction of its legitimate power over men. And where it is potential, as among heathen and Mussulmen, who ascribe sickness, drought, every good and evil to divine Providence, and the instant their stated hour for worship comes, they drop whatever they may be doing and say over their prescribed prayers, this power does them more harm than good.

MUST THIS ALWAYS be thus? Must men either make religion virtually a dead letter, or else a curse? Cannot men be both intensely religious, and yet derive therefrom only good? Must piety thus always pervert, when it is not impotent? How can true religion be made to yield all its natural benefits, without any of these palpable and monstrous evils? By means of—

NATURAL THEOLOGY AND ITS TEACHINGS.—Intellect naturally intensifies and directs all the emotions, that of religious worship included. By a law of mind elsewhere demonstrated, reason and fact must precede, guide and inspire the feelings.²³⁸ A wants to sell, and B to buy, a horse. A addresses himself at once and wholly to B's *intellect*, by showing him this, that, and the other equine excellence; for he knows the money comes when, but only when, intellect, which holds the purse strings, bids. Acquisition parts with dollars only for something worth more. All commercial talking up and talking down of bargains and values apply this law, that intellect does and must rule. Only when it is feeble or uninformed can one be "humbugged" in anything.

ALL ARGUINGS of man with man, of politicians with voters, of lawyers with judges and juries, in short, all efforts of one man to persuade others to adopt his views and do as he may wish, are based in this same law, that intellect instinctively rules, deepens, turns, and assuages the feelings. All polemical theology, in fact all polemics, have this same foundation.

ALL SERMONS, commentaries, and exhortations presuppose and rely for efficiency on this same mental principle, as do all revival appeals and efforts. The extraordinary power of Finney, the great revival preacher, and of all his coadjutors, lies in urgent appeals to the intellects of those they would convert. They *argue* them into a state of religious enthusiasm. They reach their hearts through their *heads*. They awaken religious emotion by appeals to reason. Their *premises* may be wrong; but conceded by both, or else made plausible by argument, the whole plan of revivals, exhortations, sermons, religious periodicals, and all efforts to moralize and pietize their hearers are founded in this law that intellect enkindles emotion. Sensual books have this same base; so have poetical, as have also novels, and education.

PLEASE CONSIDER duly not only that this law is true, but *how* true, and how diversified are its ramifications and applications throughout human society. We are but expounding a *natural fact* of the human constitution.

INTELLECT, therefore, brought to bear on this devout sentiment, proportionally enkindles it. Human devotion can be redoubled many times over by cogent religious reasonings; and probably the existing impotency of religion stated by Campbell, which all must acknowledge, is due to this want of deep philosophical conviction. The inferences of these sermons may be all right from their premises, but their *premises* may not be *felt*. Is there not in them all a manifest *lack* of a tangible, understandable, conclusive basis? As a surveyor must first establish his *base lines* before he sticks stakes; so religious teachers should *prove* whereof they affirm; *demonstrate* the being of a God, and those *first principles* on which they base their inferences; otherwise they need not expect to reach the *feelings* and conduct of the intelligent, nor even of the masses, except "just for now." But Natural Theology precisely meets this human and religious want. Let us give a few pertinent illustrative examples in

MODEL SERMONS.—"He sendeth forth His snow like wool. He scattereth His hoar frost like ashes."—*Job*.

"MY PEOPLE, you have often seen and heard described the beauties of spring, the glories of summer, and the bounties and luxuries of autumn; but I bring before you to-day the advantages and philosophies of winter.

"COLD plays a necessary part in the natural economics.¹⁵¹ It tones up and invigorates. Compare the inhabitants of the tropics with those in the temperate zones and towards the poles, and learn from many like illustrations how beneficial it is.

"AIR EXISTS, and the sun, shining directly down on that in the tropics, but obliquely towards the poles, makes equatorial air very hot, but polar very cold. Hot air being rarified and therefore lighter, but cold the denser and heavier, causes winds by the colder lifting the warm, and rushing into its place.

"SOME EQUALIZER of this cold and heat becomes necessary; else a cold blast would rush down towards the equator, as do the 'northers' of Texas to-day, followed by a counter rush of hot air north to-morrow; so that no living thing, not even the old oak, could live, much less grow, through them.

"SNOW supplies the equalizer. Whenever hot and cold currents commingle, they produce moisture, rain in summer, but in winter snow, thus: This moisture takes up this atmospheric cold, which freezes and solidifies this water, and forms snow, which falls by its specific gravity, settles on the earth's surface, blankets vegetation and its roots, and gives a two-fold protection to all forms of life: first in abstracting a vast amount of cold from the atmosphere, and, next, in shielding vegetation against the balance; as you farmers know that the more snow in winter, the better your wheat comes out in spring.

"THIS SNOW gives off its latent cold to the next hot southern blast, preventing the weather from becoming hot too soon or suddenly; thus constituting a threefold regulator of heat and cold.

"ICE subverses a kindred regulating purpose, besides effecting several other most desirable ends. The cold air, resting on the top of the water, gives off its cold to the water on top, which thereby becomes more dense and heavy, on the principle that cold always shrinks, and heat expands all things, of course, settles to the bottom; while the warmer bottom rises to the top, to be in turn cooled, and thereby precipitated so that no part of any body of water freezes till all parts have been brought to the freezing point. A vast amount of cold is thus taken out of the air, early frosts prevented, etc. If shrunk in freezing, its specific gravity would so exceed that of water, that it would form at the *bottom*; and soon become so thick as to fill up our river beds, turn their descending currents abroad at random throughout our fields and valleys, destroy our fish, and not thaw out during the whole summer. Instead, just at the congealing point it expands, by virtue of that great law that crystallization always expands, thus becoming larger, and therefore lighter, which buoys it on top of water; protects underlying water against overlying cold, else the whole river would soon be converted into ice; bridges it; enables us to store up winter's cold in ice-houses for summer use; saves our fish, and effects beneficial ends immeasurable. Behold the wisdom, goodness, and forethought of God in these the works of His hands!

"WINDOW GLASS serves a like beneficent end. Our houses must be light, yet warm, in cold weather. If we had been obliged to light them by ice windows,—how else could we, in the absence of glass?—the heat requisite for keeping us warm would melt this ice, and let in the cold, besides preventing our warming and lighting our houses in moderately cool weather. But glass has the property of admitting light, yet retaining heat; and how infinite the amount of human happiness this divine contrivance effects! Then should not all those who 'look out at the window,' thank God for His forethought and provisions for our comfort, down to the minutest trifles?"

A SEXUAL LAWS SERMON. " 'MALE AND FEMALE created He' all that lives, vegetables included. All forms of terrestrial life originate in this principle, which is probably forever generating worlds through the fields of space, and then peopling all with every conceivable form of individual life, some thirty-three thousand *different* forms having been already discovered on our earth, with probably many more yet remaining to be discovered ; and you and I, O man and woman, along with all that lives, owe our existence, and all we are, or can ever become, immortality included, to this sexual instrumentality.

" LOVE of the opposite sex is its specific function. This begets gallant attentions in men, and their pleasing, courteous receptions in ladies. God by this instinct commands all men to look after the comfort of all ladies, especially that of their own, and forbids all crossness from ladies to gentlemen. See that ye all conform to this requirement.

" CONJUGAL AFFECTION, that purest and holiest of all the human emotions, except love of God, is its specific product ; and nothing else equals its purifying, sanctifying, and exalting influences. The family, with all its ties, joys, and behests to man—and we little realize how great they are—flows from this fountain. All men and women should surround themselves with all the luxuries, restraints and advantages of an idolized conjugal mate, darling rosy children, and ' sweet home.' See to it that ye ' multiply, and replenish, and fill the whole earth ; ' and that no animosities or reproaches, nothing *but* pure, devoted love ever disturbs your sacred family circle ! Let every husband treat his wife exactly as the perfect gentleman treats his most appreciated female acquaintance ; and every wife her husband as that lady treats this gentleman, only much more so.

" ONE love is its natural law. All ye, therefore, who love ' here and there a little,' are breaking this divine love ordinance, and bringing down upon yourselves retributions ' greater than you can bear.' Young people, all flirtations, all sensualities, all derelictions from virtue, in either sex, are violations of God's sacred love ordinances, and will punish their perpetrators more terribly, and with more varied sufferings than God inflicts upon any other breaches of His divine laws.

" YOUNG MEN, all men, know that sensuality, throughout all its forms, personal included, while it gives you but little merely temporary pleasure, makes its victims mere wrecks, blights their immortal souls, and is God's *special* abomination.

" EACH AND ALL, see that you exercise this divine element, but only in purity, and virtuous wedlock."

Could not sermons which should eliminate, ramify, and impress like phases of truth be made to keep every young man and woman pure till, and *through*, marriage ? Suppose a D. D. should study out thoroughly the laws and facts of optics, provide drawings and models, make an elaborate exposition of the divine ways and means of vision in one series of sermons, in another of audition, another of digestion, and thus of all the other functions, thus uniting SCIENCE with re-

ligion, as God in nature has united them, men of intelligence would flock to hear him, if only to obtain knowledge, and thereby be inspired to worship Him.

EVERY SERMON, in short, should be a scientific lecture, and every lecture a scientific sermon. Nature is all religion, and religion is all Nature. "What God hath joined together, let not man put asunder."

THE NATURAL LAWS make the best of texts. The laws of eating, sleeping, breathing, ablution, health, etc., and the sinfulness of sickness and premature death, which is virtual suicide, the laws of the social affections, self-defence, respect for the rights of others, property, honor, kindness, cleanliness, the sinfulness and filthiness of using tobacco,¹²⁶ the beauties and poetry of Nature and art, the mechanical, dynamic, pneumatic, atmospheric, geometric, and all other natural laws, each form bases of sermons or series, which, well got up and delivered, would enlighten, and thus reform all the people, and well nigh compel men to obey them, by enlisting their very *self-interest* in their fulfilment. Let one example suffice for all.

" 'HONESTY IS THE BEST POLICY.' Industry is a prime virtue, and one of the Faculties God has given us to make provision for our future wants.¹⁶³ It promotes all the virtues, as idleness aggravates all the vices, being 'Satan's workshop.' It is the solemn duty of all to make money enough to keep themselves, and all dependent on them, comfortable through life; while overgrown fortunes curse their possessors, ruin their children, who should have their patrimony put *into* them, educationally, not left them, for only what money *they* earn will benefit them, breed pride, pamper vice, break the natural law of property, and indicate deficient business sagacity.

" INTEGRITY IS CAPITAL in trade. If you are honest *at heart*, you will be so in life, which people will discover, praise, patronize, and help along. This will give you credit, which is your creditor's capital, worth as much as so much cash in hand, save all bantering, raise up friends, helpers, and backers, and is your only true road to financial success. Gaining a penny dishonestly to-day loses you a dollar hereafter.

" A BOY sent with a sixpence to buy a yardstick, the price of which was five cents, was refused the penny due in change, which maddened boy and father, and though both did a business next door to this penny cheat for fifty years, which required twenty thousand dollars worth of his goods per year, yet neither ever gave him one cent of custom. That one cent wrong cost him the *profits* annually on twenty thousand dollars worth of goods for fifty years, and the eternal hate of both with all the social injuries they could inflict on him. No man *ever* wronged another in pennies or pounds without losing thousands on this identical account. God is just, and therefore punishes those who are not. None can at all afford to cheat. All pecuniary wrong inevitably pays fearfully the wrong way.

"SLANDER reacts *for* the slandered, but ruins the slanderer. Truth takes time to get her slipper on, but always overtakes and punishes falsehood fearfully. Never pity the slandered, for God sees justice done to all, nor trouble yourself about your maligners; for all wrong reacts in favor of the wronged, and against wrongdoers. Otherwise God would not be just.

"INJURE NO HAIR of man's head, and doubly of woman's; for God loves His children, and both pleads their cause, and avenges their wrongs through His natural laws. Never dare to injure his innocent, virtuous daughters, for He is their special Protector, and punishes, *pro rata*, to their worth."

UNDER LIKE SERMONS, with some "Thou art the man" in them, pithy, elegant, eloquent, able, logical, men would neither nod, nor snore, nor ogle; but would return better and still better, truer, higher, holier men and women, husbands and wives, business men and citizens, ever after. These natural laws constitute both the foundation and binding force of all moral and religious obligations, and should be elucidated and enforced as paramount, God-commanded, religious duties, and all their violations as transgressions against His holy ordinances. Sinners against God's natural laws are His greatest transgressors.

206.—SECTARIANISM ACCOUNTED FOR: THE TRUE SECT.

"MANY MEN have many minds" in many things. We are made to differ. As many more animals can be fed by different kinds eating different foods than could be if all ate but one kind, as if all men were exactly alike in mechanics, the inventions of only one could ever bless mankind; if they were alike in reasoning, all could have but one set of ideas; and so in thousands of like cases; so all were created to look at this religious problem, each from his special standpoint, so that each presents it in some peculiar phases, many of which are improvements. This religious problem itself is as infinite as is its divine Author; so that finite minds can fathom only a small section of it; yet by each propounding his and her own religious speciality, all enlarge and improve upon the religious thought of each, and each of all. This religious diversity, then, promotes the evolution of this great problem of religion. Then let each tolerate all, and all learn from each.

WHEREIN THEY CONFLICT, however, one or both are manifestly wrong or imperfect. One may see one aspect of religious truth and another another; one have this "experience," and another that, without either colliding with the other. Differing and opposing, are two things. Though the science of religion, like all the other natural

sciences, is the same from the beginning of time,¹⁹⁴ yet man's *discoveries*, advancement, knowledge, etc., of these sciences, and of religious science, are progressive; one adding one, and others other discoveries, to the general stock of knowledge. As a hundred persons in travelling the same way on a given road, some may be many miles in advance of others, see more objects and distant heights more clearly, etc., so one may see and feel more religious truth than another, and that more clearly; yet as far as the hindmost sees or feels, they both see and feel alike. Religious sects are therefore engraven into human nature, and subserves the good of all, just as do different political parties.

SECTARIANISM is accounted for and reproved thus. Though the inquiry would be pertinent here, which sect is farthest on this religious road, which have wandered from it, and wherein and how far, each is travelling in the wrong direction, etc., which Phrenology answers; yet we have not proposed to stone this wasp nest, but only to fill our own cells with pure sweet honey. But fealty to truth requires that we show in what *law of mind* it originates, namely,—

WORSHIP ADORES simply, while the other Faculties determine what it shall worship. The God we worship is but an enlargement of *our own selves*. All nations have always worshipped deities in exact correspondence with themselves. Sensual people have sensual gods, possessed of like passions with themselves. All judge others by themselves. Those who care little or much for praise, think others the same. We naturally think others love, hate, and desire whatever we do. What a man thinks about this or that depends mainly on what he himself is. All look at all things through glasses colored like themselves. Acquisitive men look and judge all things, politics, business, science, etc., simply in the light of dollars; kind people, in that of its public benefits; aristocratic people, in that of popularity; reasoning people, in that of philosophy; conscientious persons, in that of abstract right and duty; matter-of-fact persons, in that of experiments, etc. Always “the wish is father to the thought.”

APPETITE illustrates this principle; some relishing, others disliking, the very same flavors and kinds of food; according to the varying tastes of the *persons*, not that of the food they eat.

MEN'S TASTES are governed by this law. A minister, powerful in body and mind, deep and original in reasoning, a profound theologian, but cold, inelegant, with little pathos or taste, is liked by those similarly constituted, because he feeds their Faculties; but is disliked

by his sentimental and genteel hearers, who appreciate his defects but not his excellences ; one class liking, the other disliking him for precisely the same attributes ; while another, with opposite developments, is liked by those who dislike the former, but disliked by those who like the first. Hence, some men are pronounced highly talented by some, but simpletons by others. Men differ in their tastes, desires, and pursuits, because they differ in their primitive *characteristics*.

A PERFECT PICTURE is admired for its perspective and perfect proportions by those who have Size large ; its beautiful tints and hues by those whose Color is large ; its perfection of figure and likeness by those who have large Form ; its richness of taste and beautiful design by those in whom Beauty predominates ; and by all according to their *own* specialties.

MEN'S JUDGMENT is also good or poor according as their various Faculties are either. Thus, those having Causality large and Color small, are good judges of plans and reasonings, but poor of colors and paintings ; Beauty large, with Construction small, makes good judges in all matters of taste, but poor in those of mechanism ; large Size, with small Conscience, judges well of bulk, height, weight, distances, etc., but poorly in all matters involving rights and duties, and *vice versa* in both ; and so in reference to all the other Faculties. But those who have *all* the organs fully and evenly developed take consistent and correct views of all subjects, have good judgment about everything, and entertain correct and well-digested opinions generally.

THE RELIGIOUS DOCTRINES of mankind are governed by this principle. Worship adores God ; but the other Faculties of each worshipper predetermine the kinds of gods each worships. Those having any or all of the propensities in predominance, worship divinities to whom they ascribe "like passions with themselves." Thus, in the earlier ages of the race, when Nature must needs make propagation *paramount*, so as to "fill the whole earth," by rendering Amativeness the *master* passion, sufficient to override all opposing contingencies, men set up a handsome, amorous woman for religious worship. Adoration and passion must unite to build temples and set up images which should provoke each other's procreative instincts. Hence men erected and dedicated more religious temples to the worship of Venus, the goddess of passion and pleasure, than to all the other gods and goddesses put together ; besides worshipping her more ardently than all the others, by men and women rushing together in uncounted thousands to her lascivious temples to provoke each other to the utmost

promiscuous and unbridled amatory excesses ; he and she being the most pious who indulged the most wantonly. This was as much *their* piety as going to church is *ours*.

WAR was another of the powerful passions, and must therefore be incorporated into their religion. Force and Destruction, combined with Worship, erected the temple of Janus, in which to worship Mars, the god of war, carnage, and cruelty. And right zealously did they adore and serve him.

AS A GROWING YOUTH needs to eat heartily, so the ancients needed to eat relatively more than moderns, in order to establish a strong constitution for the race, and this made Bacchus their god ; who, having powerful Amativeness, had become deeply enamored of Venus, and her of him, worshipping wine and women together ; thus creating religious feasts, coupled with whatever of sensuality they could provoke. Pious debauchery and revelry were their " means of grace," propitiating their gods, and getting into their sensual heaven.

TERMINUS, who preserved their boundaries, and Ceres, who gave them prolific crops, came in for devout gratitude and worship, and were their most appropriate deities.

MERCURY was worshipped as a lying trickster, an arrant thief, an adroit robber, by Worship combining with Secrecy and Acquisition. Their powerful impulses " got up " this divinity ; and honored those most who could steal so cunningly as not to get *caught* at it.

POWERFUL CAUTION combined with Worship, adored Jupiter with fear and trembling, and offered up human victims to appease his imagined fierce wrath. The Author saw, in the American consul's office at Halifax, N. S., a picture bought at the sale of Queen Victoria's mother's effects, for a mere song, because it was so old and dusty that it had remained among the garret rubbish till its purport was lost, probably descended in the English Royal Family for ages, the colors of which our consul had so far restored that most of its figures could be plainly read. It represented human sacrifice, thus :—

A STATUE OF JUPITER stood on a lofty pedestal, to the right in the recess of a great temple, just dark enough to inspire awe and represent grandeur ; large, powerful, tall, yet brawny, the impersonation of physical power and manhood ; arms folded on his broad, powerful chest ; face all aglow with fierce, wild, ferocious rage and wrath ; flames bursting forth from his eyes and smoke from his nostrils, throwing bolts of forked lightning right and left, whom his idolaters were in

vain trying to appease, by offering up human victims on his bloody altar.

BENEATH, and directly under his glaring fiery eyes, was his high priest, with a rope over his right shoulder, one end clasped with his hands, and the other tied to the bent knee of a dangling human corpse, just killed, which he was dragging before his offended majesty, and saying in looks, "Please behold, O Jupiter, and be appeased!"

A BEAUTIFUL YOUTH, of glowing eighteen, with classical features, a Roman nose, bright auburn ringlets, beautiful face and lovely countenance, just becoming pale from loss of blood, but a bright, beautiful spot of glowing red and pink still remaining in his otherwise pallid cheek, the blood oozing from his punctured arm and trickling into a sacred vase, while a priestess felt his waning pulse, and was obviously offering him the consolations of prayer and religion; her pious face expressing devotion as exalted, and adoration as heavenly as mortal face could express; anxiously tendering him the consolations of religion in these his expiring moments; his own face saddened by being compelled to forego those pleasures he was just leaving; fainting and dying from loss of blood, constituted its central figure.

A WOMAN, hard-faced, haggish-looking, resolute, bloody, firmly grasping a short knife in her right hand, and looking as if she could go through anything, was obviously the one who opened the veins and conducted the ceremonies.

ROWS OF VICTIMS, bound, but struggling with all their might to break their ligatures,* which fairly cut into their flesh from these vain struggles; their veins swollen as if ready to burst, and their large eyes protruding from their sockets and rolling in agony in view of the bloody fate just before them, were in his rear, awaiting their dreadful doom. All this came from Caution and Worship.

MINERVA, the goddess of poetry, painting, and statuary, originated in their Beauty and Construction, mingling with Worship; while Diana personified their appreciation of chastity.

FOUR MEN, each having Worship large, but differing in their other

* RELIGION is derived from the Latin word *ligo*, to bind, prefixed with *re*, the two meaning re-bound, bound over a second time, to make doubly sure that they cannot possibly struggle loose from their impending sacrifice; this *re-ligo*, or sure binding, being the most essential part of their worship. Our word religion is thus derived from this most important part of their most vital religious rite, the binding of human victims for the bloody altars of Jupiter. Ligature, obligation, bound for, etc., come from this same root. How amazing our religious progress compared with them. But have even we reached the goal of religious truth?

organs, will each adore a god like himself. Thus, one with Worship and Conscience large, but Kindness and Reason deficient, adores a god of inexorable justice, but destitute of sympathy and sense; while a second, with Worship and Kindness large, but Reason and Conscience small, worships a god of infinite goodness, but without either justice or reason; yet a third, who has Worship and Causality large, but lacks Kindness and Conscience, worships a god of cause and effect, or natural laws, without regard to sympathy or right; whereas, a fourth, having *all* these organs large, worships a god of kindness, justice, and reason—as kind in order to be just, and just in order to be kind; and as securing the greatest good of the greatest number by instituting *eternal laws* of right; so that the last has ideas of God as much more correct and complete than all the others, as he has a larger number of the phrenological Faculties the better developed; that is, a better head.⁶³

OUR FACULTIES thus constitute as it were our colored glasses which impart their own color to all we look at. As things beheld through green or red, yellow or smoky glasses *look* green or red, yellow or smoky; so God appears to us to be what we ourselves are. Those with large Conscience worship Him for His inflexible justice, and severe retribution; with large Causality, as the first great *Cause* of all things; with large Dignity and Firmness, as the omnipotent *Sovereign* of the universe, unchangeable and eternal, and executing His own absolute will in heaven and on earth; with large Kindness, for His goodness to His creatures; with all large, as “a God merciful and gracious, long-suffering, and abundant in goodness and truth, yet who will by no means clear the guilty;” as perfectly holy Himself, and requiring holiness in all His creatures; as creating and governing them with a wise reference to their greatest ultimate good, and in doing this, as rewarding those who obey His laws, but punishing those who disobey; or, rather, as infinitely benevolent, yet who will “not let the wicked go unpunished;” with large Parental Love, as exercising a fatherly care over His children, and providing a bountiful supply for all their wants, etc.¹⁹⁸ Hence, one having *all* these organs fully and evenly developed, and unperverted, will take *ALL* the characteristics of the Deity into account, and give each its *due proportion*; his views of the character, attributes, and government of God being consistent and correct. And the nearer any one’s head approaches to this phrenological standard of perfection,⁶³ the more correct will be his moral feelings and conduct, as well as his religious opinions and worship;

yet the farther one's head departs from this standard, that is, the more *uneven*, and imperfectly balanced his organs, the more erroneous will be his religious opinions, and proportionally imperfect his moral conduct.

THIS PRINCIPLE shows all just how far, and wherein, their individual religious opinions and practices depart from this perfect standard. Those in whom Worship is deficient feel too little devotion, and should cultivate it; in whom Firmness, Dignity, and Conscience predominate over Kindness, or whose heads keep rising so as to form an apex at their crowns, regard God as too severe, arbitrary, sovereign, and austere; but whose Kindness predominates over Justice and Destruction, take the opposite extreme, and adore Him as all goodness, but not retributive; in whom Causality and Conscience are large, and Worship and Spirituality small, are too radical, ultra and hypothetical, and more moral than pious, and should pray more,²⁰³ and theorize less; whereas those whose Worship predominates over reason, believe as they are told, and should think more, but believe less. This great principle, applied to the special developments of each, gives all a moral *formula*, by which all can and should both test their own religious doctrines and practices, and cultivate their deficient Faculties, as well as counteract their warped and defective lives and ideas. The phrenologies of each and all give all a correct religious standard, and show all wherein they deviate from and conform to it. By this phrenological tribunal let all abide. Then will hydra-headed sectarianism die, and all men embrace the same doctrines of truth, and live perfect religious lives. Infidels generally have poorly balanced moral heads; while those who are wise, are wise *for themselves*.

A GOOD PHRENOLOGIST can accordingly tell to what denomination any given person belongs. If one joins this church and another that, as many do, to gain popularity or business, to see the fine toilets and beautiful ladies, or to hear the best singing, or speaking, or because his wife prefers to go there, or from drift-wood indifference, or from early habit, or associations, or any similar motives, his head does not tell to what church he belongs; but, if he is "dyed in the wool," and in spontaneous sympathy with any special set of doctrines, his Phrenology certainly does correspond. It cannot always tell whether he is a Baptist, Presbyterian, or Congregationalist, because their doctrines are alike, and these differences are only superficial, governmental, and ritual, not generic; but Episcopalian and Catholic heads certainly

can be assorted from Orthodox, and both from Quakers, and all three from Unitarians, and all from Nothingarians; and always Old School from New, High Church from Low, and Mormons from all. The Author has made these predications with scarcely a failure, in public and private, these forty years, and *knows* whereof he affirms.

SECTARIAN BIGOTS are here shown *why* they differ and wrangle thus; namely, one looks at God through one set of moral glasses, and others through others; those wearing red glasses asserting that He is red, but not green, while those wearing green glasses as stoutly maintain that He is not red but is green; each reading the other into, and out of, heaven and hell, solely because they wear different colored glass; whilst the atheist, with leathern goggle on, stoutly maintains that there is no God, solely because he won't see any! And this is the sum total of sectarianism!

OFF WITH YOUR GLASSES, then, all who love religious truth, and let all see if we cannot find "the *true* God." To carry out our figure drawn from colors: As all the primitive colors painted on a revolving surface gives a perfect white; so all the phrenological Faculties, evenly developed and normally exercised, give a *perfect* aspect of God and His moral government; and disclose

207.—THE ATTRIBUTES OF THE DEITY.

A PERFECT THEOLOGICAL FORMULA, which, rightly applied, discloses all the divine attributes, must needs exist. Has God left man in darkness as to Himself? Does He command us to worship the true God, but no false gods, without also somewhere *revealing* Himself, beyond all cavil or doubt?

THE WORKS of God reveal His character. The productions of all things are as the characters of their producers—Colt's revolver and gun cotton show that he was a destructive man, Howard's that he was a philanthropist; Morse's, that he was intelligent; Astor's, that he is acquisitive; Napoleon's, that he was belligerent, etc. "By their fruits ye shall know them." "*Actions* speak louder than words." How could one produce what is not *in* him! To write thoughts one must first have them. Can those pen elevated sentiments who have none? Can fools produce wisdom, or philosophers folly? We can give only what we *have*. As men *do*, so they are. The cunning works of the fox come from a cunning author. All the works of all beings accord with the character of their producer. This law is both necessary and universal.

GOD AND HIS WORKS furnish the most complete illustration of this law. Shall He form its only exception, and violate His own law of things? Shall He *do* one thing, yet BE another? Is the Author of all truth Himself deceptive? Is He inflexibly just in His works yet unjust in His *Nature*? Is He almighty in His works yet feeble in power? Neither. Nature is but a transcript of her Author. His works are the perfect embodiment of Himself. All that they are, He is. Are they infinite in variety and range? So is He. Are they all directed to happiness as their "chief end?" He, too, is Infinite Goodness; and His provision for the illimitable happiness of man and all sentient beings¹⁵ is but the almighty gushings of His own benevolent soul. Are His works perfect specimens of mechanical contrivance and execution?²²⁹ He, too, is the Infinite Architect of the universe, and as skilful in executing, as surpassingly wonderful in invention. Oh! the perfection and infinitude of His mechanism! Are His laws inflexible? He too, "hath no variableness nor *shadow* of turning." Hills may be removed, and mountains leveled, but "the statutes of the Lord endure forever!" Are all His works perfectly methodical, and subjected to "heaven's first law?" He is that law itself, and the mighty Regulator of all that is. Do sun and stars rise and set, moon and seasons change with perfect regularity, and all Nature observe "appointed times," and is not He the great Timist of ages? Has He created music, and is He too not the Musician of the universe, not in sound merely, but in the unmarred concord and blending of all His creations? Has He instituted illimitable duration,²⁶⁰ and is He too not the Eternal; without beginning and without end? Has He devised natural and verbal language, and does He not say to all rational beings "Learn and obey my laws?" Are His works uniform, and ranged in infinite series? He, too, is induction itself. Is every effect caused? He Himself is Infinite Causation, and works by means. Are His plans infinite in number, variety, perfection, and power, and is He less infinite? Does He hurl worlds through illimitable space as if trifles, yet descend to create the most delicate and minute structures conceivable, and is He, too, not as infinite in His littleness as in His might? Oh! who can duly admire either Nature, or her God! GOD IN HIS WORKS surpasses the eloquence of angels. Can the student of God in Nature be other than devout? No naturalist can be an atheist. None can love Nature without loving her laws and her God, or be a votary of sensuality in any form. All Nature is one vast system of Theology, one magnificent temple dedi-

cated to Divine worship, and every lover of its study is a devout worshipper at its shrine. May God teach us all Himself in His works, and by thus exhibiting His infinite perfections, fill our souls with gratitude for His goodness, adoration for His character, love of His attributes, and desire to learn more and more of His excellences, and become more and more like Him, throughout time, and to all eternity!

HUMAN nature teaches us Divine. Man is the highest part of God's works. This is no hypothesis, no ignis fatuus, but a solid, scientific basis: God is in harmony with His works, that is, with Nature. Man is also in harmony with this same Nature, of which he is the epitome, and the grand summary. Therefore man is in harmony with God, on the axiom that two things, each equal to a third, are therefore equal with each other. God is in harmony with Nature, man is in harmony with Nature; therefore man and God are in harmony with each other. All philosophy, all cant, all everything, is defied to invalidate either this premise or inference. It is short, but an absolutely reliable guide to this centre problem of religion, the Attributes of Jehovah. Mark one other syllogism.

MAN IS LIKE GOD "In His own image, and after His own likeness, created He him:" Phrenology analyzes man; therefore Phrenology analyzes God. Of course man is not like God in amount, but only in the *nature* of his attributes. That is, both have the *same* attributes or Faculties, the same fundamental principles of action, and the same characteristics, besides being governed by the same natural laws. All three, God, Man, and Nature, are in rapport with each other, parts of one great whole, and composed of the same fundamental elements. The analysis of either analyzes all. Phrenology analyzes Man, and therefore Nature, and Nature's God. Thinking readers are respectfully requested to scan this premise and conclusion—

PHRENOLOGY REVEALS the nature and attributes of man, and thereby the nature and attributes of his Creator.

EACH FACULTY in man, therefore, has its counterpart in a like attribute of God. Citing a few, will enable us to decipher the balance.

KINDNESS is an attribute alike of man and God. Phrenology finds this organ in man's head, and all human history attests its ameliorating presence in his conduct. "Good Samaritans" have been, and will be, found throughout all human history, in all conditions; while every succeeding age furnishes more and still more devoted humanitarians. Man loves to do good to man. Yellow fever in Portsmouth, in New Orleans; a consuming fire in Portland, in Chicago, in Boston, and

millions on millions leap right out of the pockets of individuals and communities to relieve consequent distress. Poor-houses and asylums of all kinds, and charities without number, swell the record. One should feel proud to belong to a race thus philanthropic.

GOD IS ALSO GOOD. His very name is but a contraction from good, as devil is of d'evil, the evil. To attempt to portray the boundless and endless goodness of the infinite Giver of all good, seems like sacrilege ; because all description falls so infinitely below the reality as to seem a detraction,—at least, “faint praise.” Though all human efforts to portray it must needs fall as far below it as man falls below his Maker, yet our subject demands at least an attempt.

EVERY DIVINE CONTRIVANCE both promotes happiness, and was expressly *instituted* for that sole *purpose* ; it being the only ultimate end of all things terrestrial and celestial.¹⁵ The sun was ordained to generate life-giving warmth, so as to render all sentient beings comfortable, and produce those vegetables and fruits about equally promotive of animal and human enjoyment. Who can admeasure the enjoyments afforded, to whatever sees, just by light, and sight ! All this is super-added to the pleasures of comforting warmth. The sun subserves ten thousand ends, *every* one of which becomes a means of enjoyment to sentient beings innumerable. Who could admeasure or conceive the amount, the variety, the extent of the enjoyments and the luxuries already derived by all forms of life from this luminary ?

OTHER PLANETS, with all their happy myriads, equally with ours, bask in his life-inspiring rays, and all who can see him from surrounding worlds throughout the boundless fields of space, are made happy by the sight !

HIS FUTURE RAYS will exceed his past in multiplying enjoyment as one exceeds *millions*, for he will have the more to make happy. O, who can conceive the number of sentient beings he has made, and will yet make, happy throughout all his past and future cycles, or the extent and variety of that happiness ! Who wonders that Parsees worship him as he rises in devout appreciation.

OTHER DIVINE CONTRIVANCES without number second his benign mission. Earth, air, water, fire, grain, fruits, flowers,—but why single out any, when all Nature, in and throughout all her individual entities, has this for her only object ! One would think that everything in Nature was in earnest emulation with all else in striving to see which could confer the most happiness, or else some new phase of it, on whatever can enjoy !

THE AMOUNT of happiness for which our natures are capacitated beggars all description ; a point already presented.¹⁵ "Eye hath not seen, nor ear heard, neither hath it entered into the soul of man to conceive," either the amount or the variety of those delights possible to all mankind. Yet some are capable of experiencing a hundred, a thousand fold more than others ; while none, not even the most favored, experience a hundreth part as much as they could. Now the goodness of God is measured not by the amount men actually *do* experience, but by all that of which all are *capable*. Infinite Benevolence has done *His* part to render us all *just as happy as we can be and live*, throughout *every part and parcel of our entire beings*, physical, conjugal, parental, social, pecuniary, moral, intellectual, and emotional, all the way up from before birth, through infancy, childhood, youth, manhood, and even life's decline, to death, probably the most pleasurable of all.²¹⁶ And death itself but opens the portals of another state of being, which as far transcends all the actual and possible pleasures of this life, as post-natal life surpasses ante-natal !²²⁶ Set down all this to the boundless, endless, infinite Goodness of God !

"Then subtract all the actual and possible *sufferings* of all men, all animals, here and hereafter—a sum total which almost equals the enjoyments of all."

PAIN ITSELF is one of the most benevolent contrivances of Infinite Goodness, as already shown,²³ all its kinds and degrees being created and adapted to compel that observance of the natural laws through which we derive all our pleasures;²¹ proving that Infinite Benevolence devised pain as a means of pleasure, and that the natural result of all pain is to "work out a far more exceeding and *eternal*" amount of enjoyment.²²³ We shall unfold a kindred principle hereafter, under "Partial evil universal good."

PARENTAL LOVE is another strong human sentiment.¹⁷⁶ How many and how praiseworthy are the delightful sacrifices made by parents for their darling children ! Yet does not the parental love of God for *every single one* of all the beings He creates, as far transcend all human love of young as God exceeds man ? All seeds and vegetables, insects and creeping things, fish and fowls, beasts and human beings, are provided for from before their birth till after their death, with a Divine Parental love, as much more tender, provident, and affectionate than ours as God surpasses man ! In fact, the very contrivance of this sentiment itself is but the out-growth of precisely this

same attribute of our loving Father above. Men and God alike love their offspring.

PRUDENCE, or protection, is an attribute of man, and likewise of God. Thus man protects himself against atmospheric changes, and dangers innumerable, by houses, clothes, and other creature comforts; against prospective hunger by storing up provisions, against falls, accidents, etc., against all sorts of evils and dangers; because he has this provident *Faculty* called Caution. God also protects every single work of His Almighty hand.¹⁸⁵ He guards all the beings and things He creates by contrivances as innumerable as the things to be preserved are numberless; and against greater as well as lesser catastrophes, such as the collisions of suns, moons, and stars with each other, by ordaining that their very proximity shall generate that very electric state by which each repels the other;²⁴⁸ and protects each and all by *some* cautionary provision specifically adapted to their respective needs. Caution is obviously as much an attribute of God as Kindness.

TASTE is also a common attribute of both humanity and Divinity. How much man always has set, always will set, by "things of beauty?" He tries to ornament all he makes and does. "Let me make a nation's poetry, and I care not who makes their laws," illustrates the power beauty of expression always has wielded and must wield over universal humanity; while the money expended on the fashions, and the influence conferred by "stylish" surroundings of aristocrats, attest how much men fairly worship at the shrine of beauty, especially that of female beauty of form, toilet and manner.

BEHOLD THE BEAUTIES of God in Nature! Everything beautiful is natural, and whatever is natural is therefore beautiful. Flower-spangled lawns and star-spangled skies, mountain scenery and savanna scenery, forest views and field views, vegetables and fruits, spring leaves and leaves touched by frosts, trees in blossom and in fruit, and without either, green colors, orange colors, and all colors, all insects, reptiles, birds, and beasts, all that is, has each its peculiar cast of beauties, and all together render Nature herself one grand galaxy of beauties and glories. All Nature is poetry personified.

NATURE'S AUTHOR must needs be infinitely more beautiful and perfect still? Shall He impart to all He makes this inherent beauty when He Himself is devoid of it? Here, too, man and God are alike in quality, and different only in degree.

MECHANISM is equally common to both. What limit has been or can be set to human mechanical invention and execution? Behold

yonder temple of Solomon, yon pagodas and mausoleums, palaces and public buildings! Scan those curious and useful fabrics, and those really wonderful machines and factories by which they were manufactured! Consult patent-office records and models, and behold those great ships, and greater steamboats, crowned by Great Easterns, and all the work of all kinds done by man's ingenious hands, painting and statuary included, and then say whether or no man possesses the element of mechanism.²²⁹

THE MAKER of heaven and earth, and of all they contain, is one of our favorite titles of the Almighty, as descriptive of His character. What is there which He did not make? and all man makes or can ever make, is but the refashioning of something *He* has previously manufactured. And throughout every one of His works runs a constructive *system* more perfect than mortals can ever describe, or even appreciate. Scan the mechanism of that leaf and branch, trunk and roots, and the attachments of leaf to twig, twig to branch, branch to trunk, and trunk to roots, including the mechanism evinced in the *structure* of wood, fruit, and all that grows. Note well the mechanism of insect life, wings and eyes of birds and animals, and of man's body and mind. See how perfectly each half joint is precisely fitted to its other half, each ball joint to its socket, including preventives against dislocations, kneecaps and eye, tooth sockets, included; scan the human anatomy in each of its isolated parts, and of all collectively, and then say whether God is not as much greater and better a Manufacturer and Mechanist than man as infinity surpasses humanity! This primal *attribute* appertains to both. Yet, all this physical mechanism is as nothing in comparison with the mechanical invention and skill evinced in the construction and constitution of the human *mind*, and all the *instincts* of man and animal.

EVEN-HANDED JUSTICE appertains alike to man and God. Though justice sometimes sleeps in man, yet each individual and all communities are actuated more or less by love of right, and respect for the rights of others. Though the stronger often oppress the weaker, yet these very oppressions at length rouse that innate sense of justice which rises in its might, and with resistless power puts down the wrong, puts up the right. But yesterday, the bold thieving "rings" of New York and other cities robbed the people right and left, and boldly defied public opinion and law, till one who *knew*, because he had shared *with* them, brought *definite* charges, which roused the long abused people in their full strength, and to-day they are not merely

"broken," but fugitives or prisoners, and the despised of all depisers. And thus it must ever be.

MEMORY, too, is an attribute of both man and God. As long as we live, we remember the scenes and incidents of "childhood's years;" ²⁵⁹ and does not God also remember to punish us for all our past sins, and reward us for all the good deeds of our whole lives, all the way up from infancy? ²²³ Could He continue to reward and punish us for virtues and vices He had *forgotten*?

PLACES man remembers, and think you God ever forgets the latitude, longitude, and geography of any one of the smallest He ever created, anywhere throughout the realms of infinite space? ²⁵⁵ or any of the creatures He has ever made? or any of the facts which ever transpired anywhere?

FRUGALITY, storing up for the future, is a human instinct, and likewise a divine attribute. Of human economy we need not speak, for it is apparent; but wherein does it differ in *principle* from that divine economy evinced in storing up in the bowels of the earth, those mountains and beds of limestone, greenstone, and other rocks which future ages throughout the infinite vista of the earth's continuance will need to enrich their soil and grow their food? ¹⁶³ Nature sees to it that nothing ever is or can be lost. One set of animals feeds voraciously on the excrements of others, and those of all, together with their dead bodies, are taken up and appropriated by other vegetables or animals, worms included, so that the utmost possible use is made of all Nature's materials. Behold economy in both!

SECRETION forms another attribute of both, ¹⁶⁵ as does also Force, Dignity, Stability, etc. Thus man is often doggedly bent on accomplishing his ends, and is not the Almighty the same from and to *everlasting*? Does He ever begin what He does not also complete? Are not all seeds formed and matured in secret, and especially the germs of human life? With what Force do both prosecute their ends, only that God's power is infinite, but man's only finite.

CAUSATION is common to both. Man contrives, and adapts ways and means to ends, while all the endless works of the divine mind are but endless and perfect adaptation of ways and means to ends. Man is a natural logician, while God is the great Logician of the universe, and if one argument fails to convince, He tries another, sometimes the "logic of events" in the *painful* consequences of wrongdoing and pleasurable of right. In short,

ALL HUMAN FACULTIES are also divine Faculties, and all divine

Faculties have been incorporated into man's inner being, and go to constitute His essence and attributes.

"What! as man eats, loves the opposite sex, fears, etc.; then does God eat, love, fear, etc.?"

THAT MENTAL aspect of these functions, soon to be given,²¹⁷ is not at all inconsistent with the divine character and attributes. We feed our minds on *truth* as much as our bodies on bread and meats. Certain it is that God creates the sexual element and amatory propensity in whatever He creates; yet how could He create what He himself did not possess? How could He form any conception of an attribute wholly foreign to His own nature? Christianity at least declares this sexual attribute of Jehovah in His having "His only begotten Son," and being "God the *Father*, God the *Son*, and God the Holy Ghost." Why employ these sexual terms unless there was *something* in the God-head quite like The Father, Son, and Mother? At all events all publicists should be slow to controvert and ready to scrutinize this interpretation, while the whole world is respectfully challenged to investigate the great *principle* here stated, that the primal *attributes* of the divine Mind and of the human are identical.

PHRENOLOGY ANALYZES the human Faculties, and in doing so, thereby unfolds those of man's Creator, who wisely chose His *Own* exalted powers and characteristics as His model and plan after which to form the human. "In His *own* image, and after His *own likeness*, created He him;" so that we have only to discover and correctly analyze all the human mental Faculties, to have the analysis of all the attributes of the "great God and Father of us all." Phrenology thus teaches universal theology. Yes, O brother man, we are graciously permitted thus to form a *definite* and a tangible idea of the true God we should love and worship.

NATURE'S ATTRIBUTES correspond perfectly with those of the phrenological Faculties,³ so that in and by here proving that the attributes of God and of man are identical, the inference is obvious that all the properties of the human mind, of the Deity, and of universal Nature, are precisely identical.⁴ Or thus: The properties of Nature and of the human mind are alike;³ those of God are like those of this same mind;⁴ therefore each is exactly like the other two. This *must* be thus, or Nature must be at war with God and man.

208.—PERSONALITY OF THE DIVINE EXISTENCE: PANTHEISM.

"IS GOD A PERSON, or merely an unconscious entity, 'diffused through all space?' Is all matter but a *part* of God, and your mind and mine but fractions of the divine mind, just as a kernel of wheat taken from a pile is but its fraction, and our death but our return from individual life to that fountain of infinite life from which we came? What of that old doctrine called Pantheism, or all-God-ism, that all Nature is God, and God is but Nature? Has the Deity an individual personality, as we have?"

THIS PROBLEM, which might be turned over into innumerable forms, is very important, and deserves a *scientific* answer, which we proceed to give.

THE ATTRIBUTES of man and of God are identical.²⁰⁷ A personal existence is one of the *inherent* attributes of man, and therefore of God. In phrenological language, personality, or an isolated, separate form of existence, is one of the *necessary* constituents of human life,²¹⁶ and therefore of the divine. That is, individual existence appertains to Him as, and as much as, it appertains to us. Neither of these premises can be invalidated, so that this conclusion is inevitable. We may build upon this corner-stone, and our structure will endure forever. Nor need we amplify it any more than that twice two make four; for it is absolute. And yet we will confirm it by additional and converging proofs.

1. MAN WORSHIPS GOD; therefore there is a God.¹⁹⁹ Man instinctively worships a *personal* God, therefore God *is* a person. Since man's innate instinct is to worship not a vague, unconscious, intangible, diffused appendage or attribute, nor even constituent, of Nature, but a self-existent, conscious, *Spiritual Being*, therefore God *is* thus a personified Spiritual Being. The general prevailing instincts of the race furnish our umpire and tribunal here, which, with scarcely an exception, point to a *personal* Godhead as uniformly as the needle points to its pole. As a normal Appetite for fruits, whatever else man may crave, presupposes and proves that fruits exist adapted to it; so this instinctive tendency of mankind throughout all ages to worship a *personal* Supreme Being, presupposes and proves that the Great God above *is* a person, not a diffused nonentity. As, if fruits had not been one of the constitutional cravings of Appetite, men would not long keep on eating them, but would have ignored them for other edibles; so if to worship God as a *Being* had not been innate in man, he would not long have kept up that idea of God.

2. THE WORSHIP OF IDOLS, and images made to resemble a per-

sonal god, of Jupiter, and his co-ordinate gods and goddesses, of the "Great Spirit" of the untutored worshippers of the forest, and myriads of like facts in human belief and practice, attest an individualized, self-existent Supreme Being.

Our arguments for this personality are short, but unanswerable. The entire tenor of all human ideas of God, as well as the personal consciousness of each reader, demonstrate this divine personality.

209.—THE TRUE WAY TO AUGMENT DIVINE WORSHIP.

"GOD IS LOVE." By a law of mind, men love whatever they consider good, kind, and friendly; but hate the sovereign, arbitrary, austere, vindictive, and revengeful. Making men believe that God is benign, loving, parental, and benevolent, compels them to love and adore Him for His goodness and mercy. Those sectarian dogmas which represent Him as taking pleasure in torturing the wicked forever, compel them to hate Him in that proportion. Maintaining that "hell is lined" with the unwashed souls of infants "not a span long," and kindred doctrines, has made more infidels than Bolingbroke, Voltaire, Gibbon & Co., ever have made, or ever can make. By an eternal law of mind men hate what they fear. Dread creates aversion and dislike. Representing Him as punitive and angry, provokes anger against Him.

BEECHER, in one of his recent sermons, speaking of the Cambridge Confession, or Orthodox creed, on reading these passages, "By the decree of God, and for the manifestation of His own power and glory, some men, and some angels, are predestined to everlasting ruin, and some are foreordained to everlasting life; fixed to an unchangeable destiny. Their number is certain and defined, and cannot be increased or diminished." "He saves whom He will, and whom He will He passes by, and ordains them to dishonor, for His own praise and glory," remarked, in substance :—

"An absolute monarch, of the worst type, who should do that would arouse the supremest indignation. If I were to be left to choose between absolute infidelity and atheism, and the acceptance of a God who has preordained and predestinated an innumerable host of His creatures to torments, to pains, and to eternal death for His praise and His glory, why rather than accept such an infernal deity, I would be an atheist, and glory therein. I heard Dr. Binney say that there were those sitting before him who, in the eternal ages, would suffer more of *the torments of the damned* than had been suffered by

all those who were already suffering; and this torture would go on from that period, the wail increasing and increasing, the horrors intensifying and intensifying. There was set before the people such a paralysis of despair by that preacher that it was positively sickening. Is it to a Being like *this* we are to say 'Our Father?' Why, if there was one soul that was predestined to such a hopeless inheritance of woe, I would say 'Our *Friend*,' not 'Our Father.' Is this the God who sent His Son into the World, by whom men are to be saved? Is this the God who is represented in the parable of the prodigal as not waiting for this son to come to Him, but who goes forth to meet him, and who falls upon his neck and kisses him? My God is not a butcher; He is my Saviour; He is not a devourer, but an eternal Shepherd. To teach otherwise would be to turn this world into a vast penitentiary. Let us see how this theory is as we see it in human life. That blushing, beauteous maiden, to whom life is one resplendent joy, scattering it by the beauty of her nature, where'er she goes, receiving the homage that is her due from all, by and by becomes the sharer of happiness with another; lives for him; bears a little child, which falls sick; she watches it night and day; looks in the mirror; takes no note of the roses leaving her cheeks; of the lines of care marring her beauty forever; or the joys all around her for others. All her care, all the full strong tension of her being yearns for her little one, till it gets better; she never leaves its cradle, which she so gently rocks, until it is out of all danger. Then the joy of her world comes back again; life is one grand anthem to her; all is gladness; her cup runneth over, and her love knows no limits; all around her is radiant. Is God less than that mother? Is He who created that heart less than the heart that beat over that cradle? If the mother could, out of the magazine of her love, bring out such moral heroism, how much more shall He reveal to us wonders upon wonders, who is the Author of all, and in which we live, move, and have our being."

ALL OUR FACULTIES should be exercised along with Worship, so as to exalt and sweeten its action as much as possible; Appetite, as in the Passover, and "the Lord's Supper," furnishing practical illustrations, as do thanksgiving feasts, Christmas festivals, etc.

TUNE should be exercised in concert with Worship. It is just as worship-promoting to sing devout feelings into ourselves and others as to preach them in. Sacred music is natural to man, and grows up spontaneously within him. Criticisms on church music would be in place here; but suffice it that sacred music is phrenological.

MIRTH should be combined with devotion, while all gloomy, ascetic piety, along with all oppressive, self-condemnatory feelings, such as that we are too great sinners to be pardoned, etc., should be banished. Cheerfulness, and even laughter, are compatible with devotion, and can be made greatly to promote it; while a long-faced,

forbidding, moody, misanthropic gravity repels and chills. The idea that to make fun is wrong, and to laugh and joke are sinful, is as erroneous and injurious as it is common. Many Christians ignorantly condemn themselves for being witty; whereas, if it had been wrong, God never would have created this sinning Faculty in man. Mirth is both pious and medicinal.²³⁶

FAMILY PRAYER is clearly inculcated by Phrenology, in its combining all the social affections with Worship; promoting family affection; securing obedience; and, in the evening, quieting the mind, and promoting sleep. Indeed, families should set as much by the family altar as by the family table. So Phrenology recommends saying grace before meals, or exercising devotion along with Appetite. Social, neighborhood prayer meetings, and the exciting of neighbors and friends to religious exercises, etc., are also recommended, and even enjoined, by this principle. At the South, where neighbors live too far apart to see each other often, it is customary to stay an hour after service, and gratify their social feelings by interchanging compliments, news, friendly affections, neighborhood incidents, etc., and its participants describe it as most delightful. So Quakers, strict to attend church, ask friends home to dine or sup, when a cordial, friendly exchange of sentiments and pleasurable feeling ensues, where all ceremony and restraint are banished, and you indeed feel at home and happy.²⁴¹ This is as it should be. At all events, let us have connubial religion, parental religion, family religion, and friendly religion, and let neither be separated from the other.

MONEY should be made, but love of riches should never interfere with religion. Acquiring sufficient of this world's goods to live comfortably should be a part of our religion; and giving money in order to promote it is clearly ingrafted on this principle, and promotes our own happiness and devotion.

THESE APPLICATIONS of this great law, that correct religious doctrines and practices involve the combined and harmonious action of all Faculties, illustrate its sweep and power, and also constitute a correct touchstone of all true and false religions, yet will be enforced by analyzing additional Faculties, and demonstrating other fundamental moral principles.

210.—RELIGIOUS SECTS, CREEDS, CEREMONIES, REVIVALS, ETC.

RELIGIOUS SOCIETIES are clearly ingrafted upon the nature of man; because the social affections should combine with the moral sentiments.

“Birds of one feather naturally flock together” in politics, literature, and everything; then why not also in religious worship?

VOLUNTARY ASSOCIATIONS, however, should be their only bond-principle, without one iota of compulsion, expulsion, or restraint. Phrenology goes in for the largest liberty, especially as regards the moral sentiments. It shakes its head at creeds and forms, as far as they govern belief, and trammel that perfect liberty which the nature of man requires. All prescription, all proscription, it abhors, because Will should combine with Worship. Compulsion of any kind, in any form, abridges liberty, and with it virtue and enjoyment. Man was never made to think by proxy, nor to pin his faith on creeds or leaders. Every man has, or should have, religious feelings, intellect, and will, and exercise all three *together*, by thinking *for himself*,¹⁸⁹ without let or hindrance, and take the consequences. Perfect liberty of thought and action is a cardinal doctrine of Phrenology. The Council of Trent legislating for the consciences of men! The General Assembly enjoining their churches and members what to believe, and what not! The Pope telling intelligent beings what is heresy, and what truth! The Methodist Conference saying, “believe this, but reject that!” There are fagots and inquisitions in our day, and there is more of religious tyranny than of any other. Men must think *in the traces*, and *believe by rule*, or have all their business and influence injured!

RELIGIOUS INTOLERANCE is most intolerable; like measuring out a specific kind and quantity of food to each, and compelling all to eat the *whole* of this dish, perhaps dose to them, but no more, no less, and nothing else, even though embittered, perhaps poisoned, by some ism; like making an iron bedstead, and stretching all who are too short for it, but mercilessly cutting down all who are too long, to its fixed dimensions. To coerce belief abridges liberty of thought, makes men hypocrites, and is perfectly odious. Let men be patronized and respected none the less for opinions' sake. Treat a sincere infidel as courteously as though you and he believed alike. Agree to disagree. Religious proscription is detestable. To bestow offices only on political partisans interferes palpably with the elective franchise, and with that civil *liberty* in which we so justly glory; but to carry this proscription into religion, and *buy* members, as politicians buy votes, is despicable, yet common. To be put into the strait-jacket, hewn down lengthwise, breadthwise, and allwise, till we fit in, is not religion, but is arbitrary tyranny. To compel assent to truth is bad enough, but to be persecuted for not accepting obvious absurdities, is horrible. Each should be left to

worship "under his *own* vine and fig tree," yet men often attempt to force their beliefs upon others! Let each and all think as they please, and all give as well as take the largest liberty, yet treat each other kindly for all. Let intellect be the only weapon with which to propagate religion. Let some make men religious by the sword, others by the Inquisition, and Protestant dissenters employ in effect the same odious, anti-republican, anti-Christian *spirit* against which they themselves protested and rebelled; but let Phrenologists take atheists by the hand as cordially as they do the faithful.

THE PRINCIPLE on which all religious associations, and indeed *all* associations, should proceed, is that of the natural attraction of kindred minds for each other. Without formal receptions or expulsions, let members come and go at pleasure, and believe and do what they please, influenced only through intellect. Let the enjoyment taken in each other's society, and the natural ties of mutual adhesion, alone bind them together. Let those form themselves into religious associations whose mutual feelings and opinions naturally attract each other together; yet let all go elsewhere or nowhere whose natural sympathies do not keep them together. Let the same law of mutual affinity which forms literary associations, political parties, and all other clubs and societies, be the only bond-principle of all religious membership.

rites and ceremonies, as far as they stimulate Worship, are right; but wrong as far as they impede it. As far as men rely upon them, they are injurious. As friendship is impeded by ceremoniousness, so is Worship. When either hospitality or religion is hearty and glowing, it inserts no ceremonious interventions between itself and its spontaneous expression; and, as when a pretended friend receives you very ceremoniously you may know he is heartless; so ceremoniousness in religion indicates a lack of its soul and spirit. Phrenology sees no special virtue in any set *forms* of religion, in creeds, councils, liturgies, homilies, prayer-books, and like religious *attachés*, because they intercept *direct* intercommunion with God.

WEAK DEVOTION may be promoted by printed prayers and set forms; yet that must be weak indeed which they prompt; and they render it still weaker. Whenever it really is feeble, it needs help from these external incentives. As idols, or something material to see and touch, provoke devotion in idolaters, on the principle that *seeing* a beautiful woman awakens the more love for her; so seeing images, crosses, surplices, candles, crescents, etc., does indeed awaken

religious emotions in those so weak in devotion as to require these *material* promptings. By all means let those employ them who need them ; as many really do. Still, as walking without crutches strengthens feet which, though weak, are strong enough to bear it ; so the less men *rely* on these material incentives to piety, the more they strengthen Worship by its use. Then let all who can be religious without them, break away from all shadows. Regard only the *substance*. Exercise the religious feelings, forms, or no forms, printed prayers, or vocal prayers, or no formal, outward expression of prayers at all ; so that the heart but communes with God ; so that the feelings are but softened down by prayer's subduing influences ; so that the soul is bedewed with the holy, happy, soul-satisfying worship of God. But beware lest these ceremonies leave the shadow for the substance.

RELIGIOUS EXCITEMENTS, or "revivals of religion," are produced just as we produce public excitements about singing, temperance, etc. They are induced by their own appropriate *means*, just like any and everything else in the physical and moral world. The means used bring them to their crisis the sooner, or continue them the longer, according to the nature of these means. They should be protracted so as to have a *permanent* revival. They never create *too much* religious feeling. There should be as much religion *always* as there is in any revival, divested, perhaps, of some extraneous excitement, but no periodical religion, or, rather, *annual* religion ; for, revivals are so managed as to be "*got up*" at stated seasons of the year. It will not take much prophecy to foretell that about next January revival meetings and efforts will multiply, and begin to produce copious showers of "Divine grace" by February, only to be completely dissipated by April. Yet why should April showers, perhaps the chilly winds of March, dissipate or supersede the showers of Divine grace ? Because revivals must give way to business. January brings leisure to merchants, tradesmen, etc, to get up revivals till the money-making season again returns. This periodicity of revivals, and at *such* times and seasons, too, tells a story touching them which should make those blush whom it may concern.

HAVE MORE RELIGION ALWAYS than any now have, even in revivals ; yet be perennial, not fitful. The day of Pentecost should have lasted till now, and even swept down the vista of all coming time, till the last human being gave up the ghost. Religion should be the *paramount* feeling, pursuit, and occupation of all,²⁰¹ not a winter's coat to be put on when we cannot make money, only to be put off when we can.

Money-making should give place to religion, not religion to it. And this subjecting the revival spirit to the worldly, tells the deep, dark story that it is both animal, and secondary, while it *should* be *primary*, and inwrought into the very texture of all we do, say, and feel. This is the revival doctrine and spirit of Phrenology, and of the Nature of man. Those *converted* by impulse, by a law of mind, must be impulsive periodical Christians, and therefore disqualified to enjoy constant, permanent religion, or shine as steady Christian lights.

ANNUAL RELIGION is much better than none; but let all live near to God *always*, “pray *without ceasing*,” and, like Blackhawk, “never take a refreshing draught from the bubbling spring without offering up thanksgiving and praise to the Author of all good.” Let our religion be as fervent in August as February; not a changeable garment, but *in* us, and form the major part of us; not annual piety, nor weekly, Sunday piety even, but *daily*, hourly, and constantly may we hold sweet communion with the God of Nature. These views must accord with both the intellect and the better feelings of those who have either.

211.—TIMES FOR RELIGIOUS WORSHIP; THE SABBATH, ETC.

PERIODICITY promotes all functions. Time is divided into years and seasons by the revolutions of the earth around the sun; and into days and nights by its revolution upon its own axis; as well as into months by the waxing and waning of the moon; and artificially into hours and minutes by means of various time-pieces. Man, throughout all his functions, is expressly adapted to these periodical arrangements of Nature, and hence naturally, almost necessarily feels hungry, sleepy, wakeful, etc., at specific hours; whilst observing regularity greatly promotes each function.²⁶⁰ We apply this law to eating by the clock, and setting apart fixed times for family amusements, etc.; so that we require here only to apply it to religious worship. Such application shows that set *times* and seasons for religious worship greatly promote it; just as eating regularly promotes both Appetite and digestion. Why should men not appoint stated seasons for Worshipping as much as for eating, paying dues, voting, and the like? The nature of man requires him to set apart a portion of time for religious worship, and such seasons may properly be called “holy time.” Phrenology says,—

“Man, worship thy God, not by fits and starts, but daily and habitually. Make this worship a part and parcel of thy daily avocations,

or, rather pleasures. Arise thee in the morning betimes, and as the glorious sun is lighting up and animating all Nature with his presence, do thou pour forth thy heart in praise and adoration to the Maker of the sun, and to the Author of all these surrounding beauties. And while the setting sun is shedding on delighted earth his last rays of diurnal glory, and spreading his golden hues over Nature, to wrap her in the mantle of night, do thou offer thy evening orisons of thanksgiving for the mercies of the day, and supplicate protection for the night. Instead of spending all thy energies in amassing wealth, or in pursuing merely animal, worldly objects, take ample time to feed thy immortal soul. Go to church if thou pleasest, or not go if thou objectest. Place and mode are nothing, but *worship* is alone important."

We should exercise Worship as often and much as vision; take *time*, and make a *business* of both equally; enjoy neither sleep, nor life itself more than this communion with God; and anticipate these seasons as the brightest, most pleasurable and profitable spots upon the page of life.

SOCIAL Worship is also directly calculated to promote devotion, just as eating with others naturally promotes Appetite. "Gaping is catching;" so is the exercise of all our functions. As singing in concert promotes and inspires the musical feeling; as eating with friends promotes relish; as laughing together promotes laughter, and working together promotes work; and thus of all human functions; of course adoring God in concert greatly promotes devotion in each worshipper, by their "provoking each other" to adore Him. This is too plain to require either proof or additional illustration.

PREVIOUSLY APPOINTED TIMES, observed by common concert, therefore become indispensable to concerted worship. All then must understand beforehand, so as to make prior arrangements to be there "on time." What could be clearer than that worshipping in concert promotes worship? and that set times for religious devotions thereby become indispensable?

A SABBATH for preconcerted religious worship is thus demonstrated to be a human necessity, by being incorporated into the primal constitution of man—no mean foundation, surely, and requiring only some marked incident, which shall be to religion what the Fourth of July is to civil liberty, to incorporate it into the canons of religion.

THE FIRST MEETING of the apostles after the crucifixion of their "Lord and Master," and His appearing among them, furnishes such an event, and renders Sunday, as now observed, a genuine religious "institution." Reduced to consecutive points, the argument stands thus:—

1. All men are under solemn obligations to worship God with all their souls. 2. Worshipping *in concert* quickens Worship; therefore all are solemnly bound to promote their own and each other's devotion by worshipping *together*. 3. All must therefore consecrate some *particular times* for "assembling themselves together," which all should religiously observe. 4. The first meeting of Christ's disciples furnishes a good epoch, an excellent beginning point for instituting Sunday, which Christians are in duty bound to adopt.

AS A CIVIL INSTITUTION, it has but few peers in practical value. Horses and servants need rest, and the monotony of daily toils and associations require to be interrupted, so that the recuperative functions can find time to reload the system with energies required for subsequent labors. All need set times to clean up, bathe, change apparel, relax, banish business and other cares, and make or take time to enjoy ourselves; which Sunday furnishes. Men will work too hard, and drive those under them to overdo; so that both employer and employed require time to rest out, and begin again refreshed. If none ever overworked week days, none would need Sundays to rest themselves or others; but since they will, all need to "change the scene." As those who overeat are benefited by an occasional fast; so all overworked men and beasts need a Sunday for rest, though others who work just enough week days may not. If Worship were duly exercised week days it would require Sunday only to meet co-worshippers; but for that it does.

HABIT, also, obviously still further enjoins a day of rest and worship. All this, and much more like it, prove that days for religious worship constitute an institution of Nature.

A PURITANICAL Sunday, or one any way analogous to the old Jewish Sabbath, which interdicts "all manner of work" on that day, however, is not indorsed by these principles. Making Sunday so *very* strict and holy that no child must laugh or play, lest it should offend God and incur eternal burnings; that no cooking, or riding, or visiting, or anything but reading the Bible and going to church, Sabbath school, and prayer meeting, must be allowed; and in which all must preserve a solemn, austere, smileless, sanctimonious gravity, is calculated to drive people from both Sabbath and religion, and provoke the opposite extreme of levity. The idea that some awful judgment will follow all Sunday work is also a superstitious whim, which libels Divine Goodness. If Sunday is indeed so very holy, why are not all the physiological laws suspended on that day? why

does not the heart stop its wonted pulsations the moment Sunday begins, and resume them after it terminates? Since it is right to eat and breathe on the Sabbath, it is equally, and for precisely the same reason, right to exercise, recreate, pick flowers and fruits, and enjoy nature and life. "The Sabbath was made *for* man, not man for the Sabbath," said He who ought to know. *He* taught that "it is lawful to do good on the Sabbath day," and took *special* pains repeatedly to set aside the Jewish Sabbath by going forth through the wheat fields and plucking and eating, and of course preparing food on that day, healing the sick, etc.; thus telling His disciples, and in them all mankind, that He thereby abrogated, vacated, and annulled the Jewish Sabbath, even to defiantly breaking the laws of the land. He killed the old Sabbath, but gave no command about any substitute. This gloomy, solemn, Puritanical, melancholy, this sanctimonious strictness which would "hang a cat on Monday for killing a mouse on Sunday," and enact the "blue laws," was precisely what He "repudiated," yet neither enjoined nor even hinted at any other. All Sabbatarian advocates are hereby challenged to name "chapter and verse" in the New Testament ordering the transfer from the last to the first day of the week, or even mentioning the Christian Sunday, except to merely state the fact that His disciples met on that day, and He appeared among them. If this recommends, it in no wise *commands*, its observance. Intelligent men should be ashamed to infer so very much from so very little, and show chapter and verse for the sanctimoniousness they enjoin. Seventh-day Baptists have no shred or sliver of a plank for their seventh-day views, for Christ expressly killed off the old Sabbath,—knocked it in the head,—telling His followers, just as plainly as both deeds and words could tell them, not to observe the Mosaic Sabbath, yet significantly omitted to institute or designate any successor.

CATHOLICS, Unitarians, Quakers, and some others, who are strict to attend morning "service," and then make a holiday of the balance of the day, practically interpret and follow Christ's clearly defined ideas of the Sabbath. Let rigid Sundaytarians follow suit, or at least not prevent others from enjoying this "day of rest."

RECREATION is an indispensable means of recuperation. One will rest twice as fast and effectually, along with some interesting and diverting amusement, as without. Diversion is every way most beneficial to body and mind, and seems to fit right in with this need of seasons for devotion, as if both were made for each other. All our

Faculties should co-operate with our religion ; therefore Sunday is a proper time for diverting amusements as well as prayers. Neither is at all incompatible with the other, but both promote each other.

PHYSICAL EXERCISE is one great means of both bodily rest and mental action. Thus one all tired out with a hard day's work, or with study, etc., will be rested amazingly by a good muscular lift, or a brisk walk, or run ; because they change the circulation, and relieve that congestion at overtaxed centres consequent on perpetual action. The working classes, confined all the week, especially require to go *abroad* on Sunday, through fields and over hills, plucking wild flowers and fruits, and enjoying themselves generally as they like. Keeping pent up within doors diminishes circulation, and this deadens the action of the brain and nervous system, and, by consequence, of the mind, and of religious feelings. In order that the worshipping feeling should be the most active, the body also must be in motion. This is founded clearly in a physiological principle. It is as necessary that we take exercise Sunday, as eat, and for a kindred reason. Not one thing in Nature indicates that God regards it as any way different from any and all other days. Neither Nature nor the Bible sustains this Orthodox strictness.

BISHOP COLENSO, in showing that the Exodus version of the Ten Commandments enjoins the Sabbath because "in six days the Lord created the heavens and the earth and all that in them is, but rested on the seventh," "while the Deuteronomy version assigns as its rationale that the Jews escaped from the Egyptians on that day," deserves, but has not yet received, an answer from Sabbatarian sticklers. If we must "keep the Sabbath holy" because the Jews escaped on that day, then must we likewise observe the Passover, and therefore all their other rites ; but if because the Lord, tired out with making the earth in six previous days, rested on the seventh, then we must make it one sixth as long as He took to create the earth and all its productions, namely, myriads of ages. In either case modern Sunday stands on nothing but the *example* of the disciples and Christ meeting together on that day. Yet an example is not a peremptory *command*. Still, since man must have some established day for religious worship, and a good example has already designated this, and it has now come to be generally observed, and need not, and cannot, well be changed, it becomes the solemn duty of all to meet their fellow-men for genuine, hearty, social worship of God, and cheerful, friendly greeting on that "holy day." The duty is the same, whether rendered so by a divine,

biblical command, or by our natural need of concerted religious worship.

THESE ACCURSED FASHIONS, however, which nowadays profane its sacred shrine, are commanded by neither, and forbidden by both. Milliners should give special thanks for this great gala day, in which all fashion-mongers can assemble in full rig, less to worship God than to exhibit their fantastic toilets, and indulge their pride, envy, and hauteur. Ten churches on Sunday are all that milliners could desire as great bazaars and show-grounds for exhibiting their furbelows and fandangos, of which even monkeys should be ashamed. If they do not profane Sunday and the sanctuary, it is because neither *can* be profaned by anything. They are both utterly disgusting and revolting to every principle of good taste, and *the greatest curse of modern times*, as well as preverters and destroyers of mankind, extant. The religious world owes it to itself, and to the human family, to purge itself from this religious parasite. Nothing could be farther from both the spirit and the teachings of "the meek and lowly Jesus," who never wore any fashionable insignia, but preached and practised humility, not sickening pride and vanity.

"But why thus fight the Biblical sabbath, yet advocate a temporal? Why not recommend both? Why not *add* its divine sanction to its civil benefits, instead of subtracting either? Men need the restraints and incentives of *both*, in order to observe it passably well."

BECAUSE what is written in it *is* written, and its omissions cannot now be interpolated. The Bible does not command Sunday; nor can any truthful man maintain that it does. In fact, Christ puts it on a purely secular basis in saying "The Sabbath was made for *man*, not man for the Sabbath." We should observe it because God commands it, not in His Word but in His *works*; because its observance brings good to *ourselves*, not glory to God. He cares naught about it on His *own* account, but only on *ours*. He is wise who observes it, but wise *for himself*; while he who scorns it is like a hungry man who scorns proffered food. Let us all observe Sunday as a religious holiday, and derive all the secular, all the moral, all the religious, good out of it possible.

212.—A NEW NATURAL LAWS SECT PROPOUNDED.

A BAPTIST MINISTER, about 1844 or 1845, called on me while with my men, crowbar in hand, clearing off stones, and building walls, in order to fit me for my winter's labors, saying, substantially,—

"PROFESSOR FOWLER, I, your fellow-townsmen, have called on you to-day, not to hinder or take you from your work, but to beg that I may be allowed to follow and *talk* with you on this important subject—religious unity. All true Christians must see and deplore these sectarian differences which to-day distract and even disgrace modern Christianity.¹⁹⁴ I am the Rev. Mr. Horton, in search of some common religious flag under which all 'evangelical' Christians can rally and unite in fighting our common enemy, Infidelity, and dwell together under one tent as a band of Christian brothers. Heretofore the 'close communion Baptists,' to whom I belong, have been the most bigotedly exclusive of all the sects, but at our last general denominational meeting the Rev. Dr. Ives, the most eloquent and devout man in it, proposed a committee of five, which was accordingly appointed, of which he is chairman, and I am one of its working number, to inquire and consider whether some bond of union, some common religious platform, on which all can stand together, cannot be found. My errand here to-day is to see whether your science of Phrenology furnishes such a flag, a standard, a platform, a battle-cry, a watchword. This object is as immeasurably important as are religious unity and fraternal co-operation among all religionists.* 'These dissensions among brethren' are truly awful, and by all means to be prevented. Can your science suggest any *common* ground on which all can work together fraternally?"

THAT NIGHT HE DIED! This was his last stroke of ministerial work on earth. *Might he not have been sent* by ministering angels, to bring forward prominently, through the Author, that harmonizing religious creed which shall embody all *lovers of God*, "*evangelical*," "*orthodox*," "*heterodox*," and all the doxies, isms, and ites, "*infidels*" included, into one common brotherhood, under one short but comprehensive creed, all provoking each other to study, adore, and love the same divine Lawgiver of the universe?

A SLEEPLESS NIGHT followed *that* day's talk. I saw the vast magnitude and practical importance of his errand, and thought out in answer to it this bond principle creed, viz.—

"We hereby solemnly resolve to study God in His works, and obey Him in His natural laws; and will promote such study and obedience among mankind."

ALL BELIEVERS IN GOD, whether they do or do not believe in any creed, or belong to any church, from high church Episcopalians to Universalists, all Unitarians, Trinitarians, and Nothingarians, all Catholics and Protestants, all Mohammedans, Christians, Jews, Deists, and Pantheists, and even all benighted heathens, all religionists

* The Christian Union originated from this movement.

but atheists, can kneel together around this altar, and say Amen together whenever any one can.

DOES THIS creed clash with any other? Could not all join in *this* study and obedience to God in Nature, and strike hands together on this platform without its interfering in the least with the creeds or ceremonies of either? Indeed, would not all Orthodox be *better* Orthodox, and Universalists better Universalists, *as such*, with than without this flag! Any and all sects which do not substantially embrace this central religious thought are valueless; while those which do, need nothing else. Without it the Thirty-nine Articles are useless, with it, superfluous. It embraces all divinity, all morality, and all theology, along with all practical Christianity. Who but could consistently aver, "I will study and obey God in Nature?" and who that does this requires anything more? Like Aaron's rod, it will swallow up all other religious rods, and digest and supersede them all. This may take time, but "to this complexion all must come at last."

PROGRESSION appertains to religion as much as to all else terrestrial, as elsewhere shown.²¹⁶ Accordingly, Egyptian idolatrous religion was better than any of its predecessors, as was Grecian and Roman mythology than Egyptian, and Judaism than both, and Christianity than all; while Christ, in His tender, parting moments with His beloved John leaning on His breast, said, "I have many things to say unto you, but ye cannot bear them now." The world was not yet prepared for this "new dispensation," but 1873 propounds it, and challenges all who would know, that they may love and worship "the true God in spirit and in truth," to scrutinize and adopt this new religious "departure" from all existing creeds, this harmonizer of all, and this embodiment of all right religious doctrines and practices possible to man.

ALL HAIL this focal religious truth! "By this sign we conquer." In this flag there is triumph. Before this sun of true piety all the fogs and mists of sectarian uncertainty and dogmatism must vanish.¹⁹⁴ It will completely *revolutionize* existing sectarian theologies, "infallibility" included, and melt all lovers of religion into one compact brotherhood. No "I am of Paul," "I am of Apollos," no Trinitarian, Unitarian, Arian, or any other ist or ite, could survive its adoption; and yet all these can worship under its broad canopy just as well as if they were either or neither. It takes no sides either for or against anabaptism, or pedobaptism, or any baptism at all; and yet

being ever so strict a Baptist, Presbyterian, Methodist, Unitarian, Universalist, Nothingarian, or Deist, does not in the least militate against each being just as devoted a Naturalist as if he were neither or either.

NATURALISM is an appropriate name for this new sect, and Naturalite for its individual disciples. For everything about which men speak must needs have its own name; ²⁶⁴ and accordingly the Author, who propounds this new denomination, in leading it to its baptismal font, christens it "Naturalism," and its followers "Naturalites." *unity*

ORGANIC MACHINERY is indispensable to all sects; yet as the Author has no "knack" for organizing and conventionizing, he leaves that to others; adding that it will take a decade or two for this young religious scion to take root. The opening of the next century will be an appropriate time for its complete formal "inauguration." He may, and may not, be then and there on hand in person, but is *sure* to be in spirit, to survey and bless that great scene, when all sectarian dogmas shall be "rolled together like a scroll," only to pass away *forever!*

CHRIST IS WORSHIPPED much more than God. The multitude of prayers addressed to Christ and few to God; of sermons expounding and lauding each; and the entire tenor of modern religious worship, imply that God is of little comparative account, and might justly be more offended than pleased, and even downright jealous to see Himself neglected, almost ignored and "counted out," even though in honoring "His only begotten Son." How few prayers and sermons are predicated on God, as compared with those on "salvation through Christ!"

213.—HOW TO MAKE CHILDREN LOVE AND PRACTISE RELIGION.

SABBATH SCHOOLS are based on the true and important natural principle, that *training up* the young in religious paths induces them to walk therein all through life. Early associations are indelible; a truth all acknowledge.

LOVE OF GOD has already been proved to be more practically important to juveniles than any other human sentiment whatever, love of parents not excepted. ²⁰²⁻²⁰⁵ To inspire this love should be the very first object of all good parents. Its desirableness need not be urged, because generally appreciated; yet its best *mode* is of the utmost importance.

BIBLE CLASSES, Sabbath schools, and preaching attempt this, with what success let all the children who loathe them practically attest.

Few children attend them from love of them. Most of them would stay at home if allowed to go or stay voluntarily, unless they went to exhibit their fineries. Most of those who go have to be driven and dogged there. What are the *facts* in this case? Let observation and memory on the largest scale decide.

YOUTHFUL LOATHING begets adult neglect and aversion. As cramming down their throats a nauseating kind of food while young would make them hate and refuse it ever after; so *forcing* them to attend religious observances *obliges* them to hate them ever in after-life. Driving them to church and Sabbath school is the surest and most efficacious way to make them irreligious, and even infidel, ever after. *Let them stay at home* unless they go from *love of worship*. Enforcing religion, like enforcing food, makes them gag at the very thoughts of it, and "spew it out of their mouths," through life. This may be unpalatable, but is true. It condemns most modern juvenile religious education (? nausea), but cannot be controverted. It even proves itself. No, pious parents, you must adopt some other means of inculcating religion, or else drive them from it.

THEIR CLERGYMAN can never render them religious, for they see him seldom, and generally in the pulpit, and regard him with "fear and trembling," and as arresting their sports; whereas, they never learn or receive anything from any one they do not first *love*.¹⁷⁷ Few children love their minister sufficiently, or are familiar enough with him, to be made the more religious by anything he may say. He must work himself into their *affections* before he can hope to promote their piety.

SABBATH SCHOOL TEACHERS get nearer to them, but generally confine themselves to inculcating *sectarian tenets* into their *heads* merely, instead of warming their hearts with religious enthusiasm.

PARENTS are the true ones to infuse the spirit of genuine piety into their souls. They should love their children, and get their love. This is the first step in rendering them moral and religious.

MOTHERS, however, are the natural high-priests of piety to their children, as of every other good thing—a doctrine fully presented in Part VIII. of "Sexual Science."⁶⁵⁷

BY WHAT MEANS, then, can parents so instil religious truth and practices into the yet plastic minds of their dear children as to incorporate them into their entire after lives?

BY MAKING RELIGION LOVELY to them. They can accept only what they first love; and love only what is lovable *to them*. To represent God and religion as austere, forbidding, punitive, and "terrible in anger," is sure to repel them.

DREAD BEGETS HATE. Caution, when aroused, provokes Force. Old and young involuntarily hate whatever they fear. None can ever love what they dread. God and religion must be made *pleasurable* and inviting, in order to do them any good whatever; must *promote*, not interfere with their childish sports, and even be incorporated into them. They are as lovely as food, and should be so represented; as lovable because they feed and stimulate a primal mental *Faculty*, the action of which is naturally the most pleasurable of all.¹⁹⁶ They can and should be induced to love religious worship just as much as their dinners, and for a like reason, viz., that one of their Faculties craves it; and a right presentation of God would beget in their tender souls a real enthusiasm of affection for Him and His attributes, works, and worship. Mothers, especially, should make and take occasion, from every little circumstance, to show how kind and good their loving Father above is, and has always been to them, and to inspire in their young souls proportionate thanks and love to Him.

A SPECIAL COMMISSION was delivered to the Author in 1844, that he teach mankind how to cultivate the religious sentiments of children by rendering religious instruction inviting, not repellent, and intermingling it *with* their scholastic education, not making it supplemental; which he now proceeds, very imperfectly, to execute, by giving the following fragmentary illustrations of the *general* course to be pursued. It can and should be varied, *ad infinitum*, by mothers, teachers, ministers, and all interested in moralizing the young.

MODEL SABBATH SCHOOL ADDRESSES might begin, and be conducted, somewhat thus:—

“CHILDREN, how came you here to-day? Walked, did you? And walked easily, not only without any pain, but with a great deal of real pleasure. Have you ever considered what a great luxury it is to be able to walk and run all around, and take so much pleasure both in the walking itself, and in what you accomplish thereby?

“How walked? Have you ever realized by what *means* you walk so easily, so far, and so limberly? To study into this wonderful walking apparatus is well worth our while. Let me tell you *how* all this walking, running, working, etc., is effected.

“How MUCH can you lift and carry? A weight heavier than yourselves and *yourselves* too. Some of you weigh fifty to one hundred pounds, and yet could walk off twenty miles at a time, without much fatigue. You run that distance every day, ‘just for fun,’ with perfect ease; and yet at every step you carry around a dead weight the heft and size of yourself! Is not this wonderful!

“IN CHASING each other you toss your heavy bodies around very

briskly, darting off on a full run, stopping short, turning right square round instantly, springing over a high fence with one bound, climb, jump down ten or more feet, and ten thousand like things. Please think how many and how wonderful the number and variety of those motions you are perpetually putting forth.

"THE MEANS by which you effect all this are equally wonderful; for this, and all else, is effected by natural causes. Bones, muscles, and nerves perform all these motions by muscles contracting or shortening at their middle on bones across joints.¹⁴⁵

"HOW INGENIOUS, children, is this contrivance in itself! and note how perfectly it executes that most important end—muscular motion. Then, should you not, whenever you experience the varied and almost perpetual pleasures of playing, walking, running, going here and there to see and do ten thousand things, thank and love God for creating you with this moving apparatus, so perfect and efficient, which effects so much so easily? and also take just as good care of it as possible, so as not to spoil it for after life?

"ELASTIC CUSHIONS are created between each of these joints to enable them to work without friction, and to keep the brain from becoming addled, by being jarred. Thus, a stone, log, anything as heavy as yourselves, thrown down ten feet upon a floor, falls dead, heavy, and hard, yet you can jump down ten feet upon that floor without hurting your brain, because these cushions between all your joints, quite like india rubber, receive each a portion of this jar, so that by the time it reaches the brain its force is broken, and your brain retains its delicate organism; whereas, without these cushions, these jumps would addle it.

"YOUR HEELS are expressly shaped and placed so as to receive this weight of your descending body the instant it strikes. When they strike you naturally throw them forward just enough to place them exactly under your bodies; for this heavy weight, if it struck solid and obliquely, would almost break a piece of iron.

"A THICKER SKIN under your heels than anywhere else over your whole body, because it is needed the most there, both protects them from being bruised and lacerated, and also helps make that cushioning, just described, for protecting the brain.

"YOUR PALMS, require, and are furnished with, a like cushion, else using them, as in labor, would soon wear them through.

"MARK how kindly thoughtful God has been to perceive beforehand just what you would need, and supply it, without your lifting a finger.

"YOUR FEET AND HANDS ARE ARCHED, because we often need to put forth a great amount of strength in them. Turkish porters frequently carry loads of eight hundred to a thousand pounds at a time. Of course this immense weight in walking all comes down on one foot at each step, and on its ball at that. You can carry a large load for your size, sufficient to crush in your feet, unless they were somehow fortified against breaking down. This is effected by their *arching shape*. You know how much weight an arch will stand. Indeed, pressure renders it all the stronger. Flat feet, or those hollowing downwards, would be crushed and spoiled by these weights, unless they were several times larger than now, which would make walking proportionally slow and tiresome. This arch gives strength along with lightness.

"A DOUBLE ARCH, the one arching from heel to toe, and the other from the right side of each foot to its left, makes it doubly strong, and yet light.

"YOUR TOES are similarly arched, and for a like reason; and all of them collectively are also arched, from great toe to little, thus employing *four* arches in each foot. And the great number of little bones which compose the feet, all cushioned, make them both very strong and very light. See how quick-motivated and springy they are in dancing, running, etc. None of you ought ever to use feet, or even to have them, without thanking your good Creator for foreseeing and supplying every possible requirement for rendering them actually perfect.

"NAILS are needed and furnished to cover the very ends, even, of your toes and fingers, which grow slowly, so that if they get broken, they soon 'grow out again;' whereas, if these nails did not grow, any and all breakages and injuries of them must remain unhealed for life.

"YOUR HANDS embody all these principles, and are thus rendered so wonderfully strong and serviceable that men can draw up their whole bodies by one hand, and even finger.¹⁴⁷ Think how much you can do with your hands, and say how much they are *worth*, and then be equally thankful and affectionate to your Father in heaven for articles thus useful and 'handy.'

"WRISTS AND ANKLES convey all this power to and from the feet, arms and body. How handy are your wrist joints, and all other joints! Without them how stiff and almost useless your hands would be! You need to turn them back and forth ten thousand times per day. *How* could you do this if your arm had but one bone! How could the hinge joint at the elbow turn! Its grooves render rotation impossible; which is now effected by a ball and socket joint at that projection on the upper and outer side of each wrist, and a second small bone, running between the wrists and elbows. You can thus turn your hand without turning your elbow, which, being a groove joint to prevent all sprains from dislocating it, can work only back and forth. Yet being able to turn the wrists, renders elbow rotation unnecessary.

"YOUR ANKLE JOINTS must receive all the power of jumping down, and of carrying heavy loads up hill and down, and on side hills, and therefore be made just as strong as possible, yet light. All this is effected by two sides projecting over so to clasp that heel bone on which they rest as to be little liable to dislocation.

"LEGS become necessary in order to raise the body a couple of feet above the ground, and promote locomotion, labor, etc. What could you do without them! Could you move much on your back, or belly, or side! How good and thoughtful was your wise and benevolent Creator to foresee your need of legs, and set Himself at work to create a pair just suited to carrying and tossing your bodies all around, and do so many things to make you happy!

"ONLY ONE LEG would be much better than none; yet how much more useful is a *pair* of legs! for how could you walk without supporting and pushing your body forward on one leg, whilst you set the other forward! This alternate setting each forward while the other

holds up the body, is so wise and benevolent that only a very thoughtful Being, who loved all His creatures well enough to devise all these ingenious and effective contrivances, could or would have invented and formed them.

"KNEE JOINTS, about the middle of these legs, greatly promote their utility. One stiff knee is very hindersome; then how much more both! They must be very strong, to prevent slipping and breaking. Hence this groove joint—a projecting ridge in one bone fitting into a like groove in the other, and called the hinge joint.

"YOUR KNEEPAN becomes necessary in order to protect this joint from those knocks incident to perpetual pushing and keeping it farther forward than any other part in walking and running.

"THE THIGHS furnish that muscular power which moves or swings the feet forward. Of course those muscles which do this must needs cross *before* this knee joint, for it could move it forward in no other place, and therefore must be perpetually exposed, by every knock of the knees, to being cut or disabled. All this is prevented by the kneepan, to which the thigh muscles are attached, the contraction of which, by hoisting this kneepan, swings the feet forward.

"THE CALF MUSCLES, after the foot is thus thrown forward and firmly planted, now contract, and push the body forward a couple of feet at each step.

"THIS SHOWS WHY and *how* you walk and run thus fast and easily. Should you not *love* that Being who has done all this solely to make you happy!

"TURNING YOUR BODIES, as in looking backwards, sideways, upwards, downwards, etc., changing directions, and all that, often becomes indispensable. A hinge hip joint would render all turning impossible; so that God in Nature has provided for all these requisite turnings by means of *ball and socket* joints, which consist in a round knob on the upper end of the thigh bones fitting into a hollowing socket formed in the hip or pelvic bones right over this ball, held in place by a muscle attached to the middle of this socket, running up through a small hole in this pelvic bone, and so attached above that it can be pulled out of or into its place only by a powerful effort.

"THESE PELVIC bones receive the whole weight of the body, with the often very heavy load it may be carrying, transfer it to these balls, and they to the feet.

"YOUR BACKBONE, or, rather, series of bones, places this weight upon these pelvic bones, first receiving it from above, that is, from the head, arms, and shoulders; maintains erectness of posture; allows motions forwards, backwards, sideways, and rotary; breaks the force of falls, jumps, etc., by intervening cushions, which yield to pressure and facilitate all those bendings of the body so very convenient and useful; and also allowing the nerves from all parts of the body to enter the spine and pass up through a hole in its middle to the brain. No part or organ can live unless in perpetual nervous connection with the brain.³⁷ All these nerves must have some secure *passage-way* from each organ to it. This backbone, by its internal hollow, furnishes such duct, and each joint lets in and out a nerve from some organ. If any organ is inflamed, its nerve is inflamed,

and the spine at this joint is sore or tender—which thus becomes a sure test of disease.

“YOUR SHOULDERS are quite like your hips in structure and requirements. You need to swing your arms all around freely in all possible directions, while they remain firmly attached to your body. *Ball and socket joints* allow this rotation in all directions, and shoulder-blades serve a like purpose with the pelvic bones.

“YOUR HEAD must be *above* all else; and allowed to turn freely in all directions, and hence must be separated from the body by a *neck*; for if it fitted close down on the body, how could it turn!

“ITS TOP bone, that next the skull, allows it to slide around from side to side with perfect ease, as in turning the head, while the joints in the neck allow us to raise or lower it forward and backward at pleasure. Turning the head in all directions is very handy, and effected by means both most perfect and efficient.

“YOUR BRAIN is the grand organ of life, as well as of the mind—that by means of which we all live and have our being, and of course by all means to be absolutely protected.³⁵⁻³⁷ Being gelatinous, it is easily damaged and disorganized, and must therefore be doubly protected by various means, one being inadequate. Cushions at all the lower joints protect it some, but the skull protects it more!

“DURING GROWTH it needs this protection even more than after it. Eight bones constitute its chief protection, two, called parietal, beginning to form over the ears, and enlarging till they meet other bones beginning at other points, and growing till they strike each other, when they shove their respective edges past each other, bending round, like bent saw teeth, interlocking with other bent edges. Scalp and hair still further guard this delicate organ, preserve the required temperature, etc.

“THE SHAPE of the head also protects it. Its being round allows the most brain possible in the smallest compass; wards off blows by rendering most of them oblique, so that they glance off; by its eyes seeing dangers, so that we can dodge or parry them; and by other means innumerable. If the head were thin and flat, like a board, it would present a larger surface to injuries; be easily pierced and perforated; receive blows on a flat surface instead of, as now, on an oblique one, and thus be hurt a thousand fold more than now. Behold the infinite wisdom and goodness of God, in these and myriads of like natural contrivances! Let us all love Him in proportion to all His provisions for our happiness.

“YOUR EYES, too, must be, and are, protected both by sockets and that bony ridge over them; be, and are, high up, so that you can see far off, and look *down* on most objects; require to be, and are, kept moist; must, and can be, turned all around in all possible directions; and are perfect in construction and execution. Some day we will examine the various parts of the eyes, to see how perfectly each part is fitted to perform its specific function, and on other occasions will do the same by the ears, teeth, nostrils, heart, lungs, and the other parts of the body. Meanwhile, since God has taken such extreme pains to make for us bodies so perfect in every possible respect, shall we not carry out His wise provisions for our happiness by taking the *very best*

care possible of them? Please, children, for your own sakes, never do anything to abuse or injure them."

NATURAL FACTS like these, succinctly stated and applied, would enkindle an enthusiasm amounting almost to ecstasy to go the next Sunday and all Sundays, so as to hear and learn more like natural truths; and all the week they would keep thinking up and studying out these and like subjects; and *this* constitutes an *education*, somewhat more practical and useful than learning to spell Baker and repeat the Catechism. No fact in Nature or science should ever be taught them without therein and thereby inculcating religion; nor should religion ever be taught them in dogmas and mysteries they cannot understand, lest, in rejecting the mysterious (? absurdities) they reject religious truth by wholesale.

"EATING is our subject of inquiry to-day. Did you relish your breakfast this morning? Please think how much real *luxury* it gave you. Then how much pleasure have you ever taken in all the breakfasts, dinners, luncheons, suppers, fruits, nuts, etc., you ever ate!

"EVERY FUNCTION you ever put forth uses up your organic materials, which must be resupplied, or permanent exhaustion and death must ensue. Food resupplies this organic waste.⁹⁰ But it must first be eaten, and then digested.

"THE CREATION of food comes first. Without it, though your teeth, stomach, and digestive organs were perfect, you must die of starvation. Think, then, how kind and good God has been in creating this vast variety and amount of edibles, so that every one of all the beings He creates can find something to eat. Some kinds of food grow in wet places, others in dry; some on mountains, others in plains; some 'up north,' others 'down south,' that the more food may grow, and the more forms of life find the food required by each. Just see how benevolent and how thoughtful is the Bountiful Feeder of all He creates! How cruel to create but not feed! how generous to create *and* feed so many thus bountifully!

"HE FEEDS YOU on a great many kinds of food; and each most delicious. He creates wheat, rye, corn, barley, oats, potatoes, peas, beans, carrots, beets, turnips, squashes, and other grains and herbs without number, and has also created in you an appetite which relishes each, and then makes you very happy in both their raising, eating, and digesting; as well as in working them up into playing, studying, and whatever else you may do.

"FRUITS also abound in equally great variety and abundance. How many apples, peaches, pears, cherries, etc., do you think there are on your father's, uncle's, and neighbors' orchards and trees? and how many grapes on their grape vines? Literally *millions*, each individual one of which is calculated to make some animal or person happy.

"NEVER STEAL ONE of them; for they belong to the one who raises them. If you want them, go ask for them, and if the owner is as kind

to you as God is to him, he will give you some; or earn money and buy some, or else go without. To a good child, nothing got wrongly can taste good. And if you desire to have it taste *real* good you must *raise* it your own self.

"THE SUCCESSION of fruits is another of nature's wisest provisions. Strawberries come first, and some kinds earlier than others, and the earlier the farther south they grow; so that their season lasts a long time.

"RASPBERRIES, black and red, come just before strawberries go, so that we can keep right on eating fruits; and raspberries relish quite as well as strawberries, and last till cherries and blackberries ripen; while these again last till the earliest kinds of apples and pears ripen. Some kinds of these fruits mature early in July, and in southern latitudes even in May, and keep on ripening, various kinds in succession, all along through summer, fall, and winter; so that old apples and pears last till new ones come; thus giving us fruits the whole year round.

"PEACHES are interspersed by our good Father above, as well as other kinds of delicious fruits, along with these staple fruits. You know how delicious they are; but they are many times more luscious when plucked and eaten right from the tree, when just ripe enough to fall, than when picked, as they usually are, for market while yet green, so that they can be transported and kept till sold. None can know how luscious good peaches are unless they are eaten right from the tree, and plucked when fully ripened.

"PEARS, however, have the valuable property of ripening and mellowing off after they are picked, and are among the very best of all the fruits; because they contain that iron by means of which life is carried on.¹⁰⁸ Thank God for pears, and eat them in love to their bountiful Giver.

"GRAPES are still better, and more delicious and wholesome. They thin the blood and enrich it, and make us feel pleasant and happy. We should thank their Giver as soon as they come, eat every bunch in devout gratitude, and at the close of their season, offer up heartfelt hosannas for a fruit so beautiful, luscious, and healthful! And whatever we eat and drink, let us remember Who it is that gives, besides doing our very best to please and obey One who is so *very* provident of all our perpetually returning wants.

"HIS GREAT HEART seems to overflow perpetually with tender parental care for *each* one of us, and for all He creates. Then let us all love Him with all our souls. Yet we can never begin duly to love and thank Him in proportion to His goodness to us!"

OTHER THEMES might be treated in like manner, and in many and all ways, according to the ever-varying tastes of each talker, so that the *goodness* of God is made an ever-present reality to them, and brought right home to their *senses* and *consciousness*, their appetites and passions.

THESE DEVOTIONAL INCENTIVES can be diversified by introducing moral theme and lessons somewhat after this fashion:—

"BOYS AND GIRLS, your having been created lads and lasses imposes on you some mutual duties and behavior as regards each other, which all of you ought to understand and practise. Boys may treat boys roughly if they like, though this is neither right nor best ; but all boys should treat all girls in a soft, tender, obliging, pleasant manner. When boys are sliding down hill with boys, they may let each other draw their own sleds up hill, if they like, though it would be kind in you to do it for little ones ; but whenever any boy is sliding down hill with any girl, he should always offer pleasantly to draw her sled up for her, and do it so kindly that she will know he wants to do it to oblige her. He should always offer and ask to draw her on level ground on his sled, and when both are skating together, a good, genteel boy will be polite and attentive to all girls, draw them round on his sled, tuck their cloaks closely down around them, to prevent their getting cold, and make them just as comfortable every way as he can. Only a bad, naughty boy will ever plague any girl ; and all boys who do, ought to be ashamed.

"BROTHERS, too, should be still kinder to their little sisters, and all sons still more attentive to their mothers, and see how kind and good they can be. Just think what your mother has done for you in feeding and clothing you ; and even when she seems to scold you, she does so because she feels bad and grieved to see you naughty, and desires to make you better. All she has ever done for you—and you can never realize how much that is—attests how much she loves you. Then please don't ever aggravate her any more, but just see how real good you can be to her ; and then see how good, polite, and kind you can be to every lady you meet. Improve every opportunity to see how true a little man and gentleman you can be to every female you see."

APPEALS LIKE THESE can soon be made to regenerate all children. Especially can mothers, every day of their lives, thus quietly, gently, winningly present this and that religious motive, appealing now to their devotion, anon to their sense of right and duty, and again to their future hopes and fears, and to each and all their higher Faculties in turn, provoking each and all to action, and working up all into a good, devout, high, true, upright, and noble human life ; whereas forcing them to go to church nauseates them of everything religious. To be of any earthly service, devotion must be *spontaneous*, voluntary, and prompted by what *delights*. *Sweeten* religion if you would have them relish it.

THE AUTHOR PROPOSES, as soon as he can command the time, taking a few thousand natural facts, to show their *rationale*, either in a separate work, or in an appendix to this work, or else incorporated into it, which shall state concisely the results attained in each case, and the divine ways and means by which they are attained, all "looking through Nature up to Nature's God."

CHAPTER II.

IMMORTALITY: ITS PROOFS, AND RELATIONS TO TIME.

XIX. SPIRITUALITY, "MARVELLOUSNESS," "WONDER."

"There is an inspiration in man, and the spirit of the Almighty doth give him understanding."—*Job*.

214.—ITS DEFINITION, DISCOVERY, AND ADAPTATION.

THE PROPHET—Intuition; perscience; feeling and perception of the spiritual; second sight; the "light within;" prophetic guidance; waking clairvoyance; faith; forewarning; spiritual perception of truth, what is best, about to transpire, etc.; belief in the superhuman; credulity; trust in divine guidings; Providence; the spirit of prayer;

SPIRITUALITY LARGE.



No. 151.—EMANUEL SWEDENBORG.

belief in the supernatural; that which "feels it in the bones," etc. Its excess and perversion creates superstition.

ITS LOCATION is on each side of Worship, and between it, above, Imitation in front, Beauty below, and Hope behind. This rule will find it.

Place the open fingers of both hands side by side, so that, standing behind the person observed, their ends will reach a little past the middle of the head, and the two index fingers be about an inch apart, the balls of

the second fingers will rest on this organ. It is large in Swedenborg, Diana Waters, and No. 149, but small in No. 148.

"In the first fanatic I saw I was struck with the rounded prominence of the superior part of the frontal bone. This protuberance is not lengthened like that of Kindness, nor elliptical like Imitation, but is formed like the segment of a sphere. Between the poetical convolution and Imitation is another, the development of which probably involves seeing visions. Whether it forms a part of Imitation, and so exalts its action as to cause it to give to ideas of its own creation an external existence, and make them appear as coming to us from without; or makes a part of both Poetry and Imitation; or constitutes a particular organ, can alone be determined by future researches. Let readers examine the heads of those sane persons who have visions, such as Socrates, Gabrino, Tasso, Joan of Arc, St. Ignatius, Cromwell, Swedenborg, Jung Stilling, Hallereau, M. de F. and Dr. W., in all of which it is large."

"CERTAIN PERSONS HAVE APPARITIONS of the dead and absent. How happens it that frequently men of much intellect believe in ghosts and visions? Are they fools, and impostors? Or is there a peculiar organism in man which deceives? Let us commence by giving facts."

"SOCRATES often and willingly spoke to his disciples of a 'demon' spirit, or genius, which served him as a guide. What was this 'familiar spirit,' this divine voice, which answered whenever he consulted it? What motive had he for imposing on his disciples? In his defence he says: 'This peculiar genius which inspires and guides me is no new divinity, but the eternal instinct and genius of mortals. Some guide themselves by consulting sibyls, others by the flight of birds, and others still by the hearts of victims; but for myself, I consult my own heart, I question my conscience; and consult in secret with the spirit which animates me.' If he had not himself believed in this guiding genius, the general belief that he was thus inspired would have disappeared, when, twenty-three years after, Aristophanes ridiculed it, and would not have been reproduced among the points of accusation."

"NICHOLAS GABRINO and Cromwell* are quoted as hypocritical impostors, who make these visions and revelations a cloak for gaining authority, yet their accusers do not reflect that others may have different sensations from themselves, and believe in something different from their own faith."

"JOAN OF ARC, while in her prime, saw from her village church a great light, whence proceeded an unknown voice; and sometime afterwards heard this same, and saw celestial visions. St. Michael told her that God had taken pity on France, and ordered her to go and raise the siege of Orleans, and have Charles VII. consecrated king."

"Maffey and Bonhours were certainly right in attributing visions to St. Ignatius."

"TASSO claimed to have been cured by spirits of a violent fever;

* CROMWELL'S "height was under six feet (two inches, I believe), his head so large that you would believe it would contain a vast treasure of intellectual capacities; and his temper excessively inflammable, but soon extinguished by his moral qualities."—*M. Villerman.*

thought he conversed with them, and tried to convince his friends by showing them the celestial being with whom he conversed."

"SWEDENBORG thought himself miraculously called to reveal to the world the most hidden mysteries. He says: 'In 1743 it pleased the Lord to manifest Himself to me, and to appear to me *personally*, to give me knowledge of the spiritual world, and to put me in relation with angels and spirits, and this power has been continued to me till this evening.' His English biographers say he was the most sincere man in the world, and the most extravagant and enthusiastic."

"DR. JUNG STILLING, whom we often saw at the Grand Duke of Baden's, first a tailor, then teacher, doctor, moralist, religious writer, journalist, illuminate, and visionary, firmly believed in ghosts, and wrote a book expounding this doctrine."

"THE FANATIC already mentioned, in the house of correction, whom I pronounced a visionary the moment I saw him descending the stairs, was the one who said Christ appeared to him in a light as brilliant as that of ten thousand suns, to reveal the true religion."

"I TOLD A GENTLEMAN who is admitted into the best Parisian society, that he believed in ghosts, and sometime saw visions. He leaped from his chair in astonishment, saying he had them, yet had never before mentioned it for fear of being called fanatical."

"I TOLD DR. W. that the form of his head indicated a great propensity for the marvellous and supernatural. He replied, 'You are wrong this time, for I never believe anything not demonstrated; but when I alluded to animal magnetism, he became very animated, maintained that spiritual beings acted in magnetism; that distance was no barrier; that they produced apparitions and visions, which undoubtedly exist, and I know their laws.'"

"HALLEREAU of Vienna was constantly accompanied by his familiar spirit till sixty, when it wished to quit him, and afterwards appeared only on certain days of the month."

"A CURATE of Baden was imprisoned because he had a familiar spirit. A man at Manheim thinks he is accompanied by several. Pinell speaks of a dangerous maniac who believed he conversed with ghosts, and saw visions. History, ancient and modern, furnishes numerous like examples. If it is ridiculous to admit them, it is unjust to accuse as impostors all those who say they have them."

"What is more analogous than this contiguity of Poetry, Imitation, and visionary exaltations! Its location by the religious sentiment shows why all visionaries appear so sanctimonious, inspired, and superhuman."—*Gall*.

"There is still a sentiment which exerts a very great influence over religious conceptions, and, in my opinion, contributes more than veneration to religious faith. Some regard all things as natural, while others see something wonderful in passing events. In all ages man has been led by his credulity. The founders of all nations have had a supernatural origin ascribed to them. Many in all ages have believed in dreams, sorcery, amulets, magic, astrology, spirits, angels, the devil, miracles, second sights, and the incomprehensible. Mahomet was introduced by Gabriel into the heavenly mansions, and everywhere saluted as the greatest prophet. Swedenborgians, Metho-

dists, Quakers, and many others demonstrate its presence and activity; and men at large have a strong propensity to believe in miracles, while the stage proclaims its public activity, in the popularity of its ghosts and phantoms."

"THE EXISTENCE of this feeling is certain. This disposition, like that which traces out causes, is inherent, and forms a part of our mental constitution. Its organ is situated anterior to Hope, and its convolutions, when large, enlarge the superior and lateral parts of the frontal bone."

"THESE FACTS determined me formerly to designate this Faculty by the name of Supernaturality, and it is certain that it is principally manifested in a belief in miraculous and supernatural circumstances, and the foundation of religion by supernatural means."—*Spurzheim*.

"IN THE RICHMOND LUNATIC ASYLUM I saw several patients in whom this organ predominated, whose insanity consisted in believing themselves supernatural beings, or inspired. Miss H. in whom it was very large, believed herself under the influence of supernatural beings."—*Combe*.

"DR. ANDERSON, a believer in animal magnetism, imagined that invisible enemies were following and tormenting him everywhere; put some of his acquaintances under legal bonds not to injure him farther; even went to Paris to escape them, but was equally haunted by them there, yet was perfectly rational on all other subjects; and on opening his skull it was thick and hard, showing chronic inflammation; and right at this organ was an old inflammatory deposit, under the arachnoid coat, which had thickened, and adhered for an inch and a half long and an inch wide, this organ alone being affected; and his uniform custom was to lave this part at night to abate its intense heat."—*Edinburgh Phren. Journal*.

"The natural language of this Faculty is nodding the head obliquely upwards, in the direction of this organ. I have observed one telling another some wonderful story to nod his head upwards, two or three times at the end of each wonderful point. Its general function is considered established, but its metaphysical analysis is still incomplete."—*Combe*.

ITS ADAPTATION,—for each Faculty must be adapted to some great institute of Nature,³—is to SPIRITUAL EXISTENCES, and a *spiritual state*. Combe calls it Wonder, but in describing its workings, as above quoted, ascribes to it this function of seeing spiritual beings, by a spiritual vision imparted by this Faculty. Let us scan this class of human facts.

ALL HUMAN HISTORY teems with its manifestations. Till within two hundred years, they were incorporated into all human history, as veritable facts, and a legitimate part of the events narrated; yet nothing not acknowledged by the masses could have been thus incorporated.

THE BIBLE IS FULL of them, from beginning to end. Adam had

these visions ; so had Enoch and Noah, all of whose preparations of his ark were based on them ; as had Lot and Abraham, all their lives. All those divine commands on which he acted came through this Faculty. So did all those of Moses and Joshua, Samuel and all the Prophets. In fact it forms the ground work of the Old Testament, and no small part of the New, and constitutes what is meant by "inspiration." What means the "Witch of Endor," and Saul's calling up "familiar spirits," that of Samuel for example ! There must be some primary mental *element* on which all this and much more like it is based.

MIRACLES are analyzable on this Faculty, and furnished a tangible philosophical basis by it, but by no other principle. How easily and perfectly it accounts for raising the dead, healing the sick, and much more like it !

ALL SYSTEMS OF RELIGION, ancient and modern, great and little, are based on this spiritual principle, and but its outworkings. Mahometanism gives expression to two Faculties chiefly, Worship and Spirituality. The Chinese religion consists mainly in driving off evil spirits, and Hindoo religion is quite analogous to it in this respect. The religion of all North and South American Indians consists chiefly in "the Great Spirit," and even their cures are mainly spiritual. All their burials are but preparations for spiritual enjoyments.

SALEM WITCHCRAFT was but another phase of its manifestations. Its affecting even the Puritans thus, with all their hard sense, shows that it must have some *foundation* in human Nature, and the *idea* which it expresses has pervaded all societies, throughout all ages.

GRECIAN, ROMAN, Egyptian, Syrian, and all the ancient mythologies of all ages and nations consisted mainly in its outworkings. All the auguries of their temples and shrines, and all their oracles and consultations over slaughtered birds and animals, and even human beings, were but its expression. Nebuchadnezzar had his soothsayers, and interpreters of dreams and visions. All the gods and goddesses of all the ancients were spiritual beings, as were their nymphs, houris, etc. In fact, mythology is chiefly its creation, in combination with the propensities.

ALL MODERN RELIGIONS and each particular sect and denomination both presuppose this Faculty, and consist more in its expression than in that of Worship. The very idea of God, except pantheism, makes Him a spirit ; and the religious ideas of devils and angels, Gabriel included, with all the saints of Catholicism, and the "Holy

"Ghost" of all, presuppose spiritual existences, which they modify to their respective tastes. What are devils, evil spirits, "the spirits of just men made perfect," *et al.*, but spiritual existences? In short, no proof of any truth need or could be stronger than that the entire human family, throughout all its aspects and variations, its great sections and all its sub-divisions, acknowledge, recognize, and *feel* this spiritual existence.

ALL COMMUNITIES and most families show this Faculty under various forms. All these neighborhood superstitions, such as premonitions, forewarnings, superstitions, haunted houses, signs, such as certain howlings of dogs foretokening a death in the family, and kindred things innumerable, emanate from this element. Many persons claim to be guided by supernatural direction. The Quakers, as intelligent, moral, respectable, sensible, and every way worthy a body of men and women as lives, make "the light within," which is but a manifestation of this Faculty, the chief *fact* in their religious specialty; and in them I always find this organ large, especially in their ladies.

EVERY SINGLE MORMON, from their President Young down throughout his Apostles, and every Mormon I examined had it large; it being larger in them as a body than in any other community I ever examined.

SPIRITUAL FOREWARNINGS and guidings are unmistakably an actual fact. Sensible persons by thousands not only have them, but *prove* them, by telling *beforehand* what *will* and afterwards actually *does* happen. All communities, all neighborhoods, teem with practical illustrations of this great fact. Elderly ladies have the most of this prophetic gift, which bespeaks especial attention, because of its exalted source; a good elderly matron being the climax of all human purity and goodness. The fact that *they* are the most imbued with this prophetic spirit is certainly a "feather in its cap." All these neighborhood prophets and prophetesses are "inspired" solely through this element. And I never knew one in whom it was not large; and can always select them by its ample development. What does all this *mean*?

THINKING OF A PERSON just before he "pops in" on you is but another phase of it; and a manifestation of which all are experimentally conscious. That is, the *spirit principle* of persons precedes them. I think of a friend, and start to see him. My spirit goes before me, and so impresses itself upon his as to make him think and even speak of me, just before I enter.

CLAIRVOYANCE is a fact, demonstrated by animal magnetism. It is established by experiments the number and palpableness of which cannot be disputed, nor explained away, but must be *admitted* by all who choose to institute them. They, too, are but the manifestation of this primal mental power. They prove that the mind is capable of acting independently of the senses, observation, reason, etc., etc.

WAKING CLAIRVOYANCE is another common phase of it. Certain persons are "impressed" thus and so; things "*come to*" them; they "feel it in their bones," that they, that others named, are going to die, or that certain things will transpire, which do. The papers contain more or less illustrative facts. They told of a workman lately killed in a Pennsylvania coal mine, being loath to go down that morning, even though his family were starving from his previous strike, returning to his house twice, and bidding his family a most affectionate farewell, and kissing his wife and each child most tenderly as if he should never again see them; a thing he never did before, and in an hour was suffocated! His wife had also had like presentiments of his death.

"REV. DAVID DAMON remarked in consecrating a burial place that he might be first to repose in it. And he was."—*Boston Courier*.

"JUDGE UPSHER could not be prevailed to join the excursion party down the Potomac, for fear of some disaster from the big cannon. Only after much persuasion, and even raillery could he be induced to go on board. I have this remarkable fact from one who heard it from the secretary's own lips, and who wondered that a man of his sense and nerve should permit such whimmy fears to influence him."—*Boston Advertiser*.

Only a few minutes before he was blown to atoms, while filling his glass for a toast, taking up an empty bottle he remarked, "I can't drink my toast till these *dead bodies* are removed," a remark he repeated on taking up a second empty bottle, showing that premonitions of his impending death haunted him; and Com. Kennon, another of the killed, remarked to Capt. Saunders while going to the boat, "If I'm killed you'll be next in command;" while Wilkins had a similar premonition, which he obeyed by heeding, which saved his life. If Upsher and Kennon had heeded theirs, they too would have saved their lives. Like facts transpire by thousands.

DREAMS often unmistakably come to pass. Reader, have not you yourself been forewarned and guided by them. This mental element alone can account for them; communications being made through it.

EDWIN FORREST tells one about a fellow ship's passenger going to

England, dreaming that he saw his brother, from whom he parted the week previous on the N. Y. dock, coming into his cabin all wet and *drowned*; and at that very hour, as afterwards proved, he *was* drowned. His dream was *written* and sealed, and handed to the "Drury Lane" manager, till the next steamer, which confirmed his dream.

LYMAN BEECHER PROPHESED during a revival, which of course exalted this Faculty, that in ten years Tremont Theatre, then the great theatre of N. E., would become a church, and in just ten years he preached its dedication sermon; while Elias Hicks prophesied many years before, that in 1842 England would be without a king, and the United States without a president, both of which "came to pass."

MRS. ADAMS, whose husband Colt murdered, dreamed twice of seeing his mangled body wrapped in a sail and packed in a box, begged him frantically not to go out the last time before his murder, and felt no surprise at his not returning, alleging that he had been killed. Colt packed him in a sail.

JOSEPHINE was Bonaparte's prophetess; forewarned him not to go to Russia that year; but he went, and fell. And great men will generally be found to have some doting devoted female guide and prophetess in a wife, mother, sister, or intimate friend, whose whole soul is enlisted for them, and is their spirit guide.

A FARMER, after "tackling up" to go a few miles, before starting, called his family together, and what he had never before done, kissed all around, and bid each good-by. "Why, husband, aint you coming right back?" "Yes, at three; but somehow I feel that I shall never see you again." He started, was run away with, and killed!

ABERCROMBIE mentions analogous cases, and the world is so full of them, that to doubt them is impossible, as to pooh pooh at them is unphilosophical;—all of which are analyzed and explained by this Faculty.

TRANCES are a fixed fact. All Sunday School readers have read the story of Rev. Mr. Tenant of N. J., who lay entranced three days, his burial being postponed twice, yet he finally "came to;" meanwhile, in his vision he ascended to heaven; felt inexpressibly disappointed at being obliged to return to earth; and told what he saw and felt while entranced.

A DERVISH, in Calcutta, puts himself into a trance; turns the end of his tongue down his throat; his mouth, nose, ears, etc., are all sealed up; he is wrapped up; sealed again, *boxed*, his coffin is sealed, and *buried*; grain is sown over him, and watched, and *remains ten*

months or more, when he is brought to, and describes his mental state meanwhile as ecstatic. Captain Wade, General Ventura, the Maharajah, and his Sirdars, are the attestators.

MAN NEEDS just such a guide. All Faculties are predicated on some great natural *want*, some indispensable end to be effected; and this is required to teach us many things we should know, but can learn by no other means. We are often called to decide very important measures which Causality cannot reach, because the data requisite for its intelligent action has not yet transpired, or is not at command, or which unknown contingencies render uncertain, so that we must leap into the dark, unless guided by this intuition. Man *needs* and *has* this "second sight," for his guidance. Man also needs it in spelling out truth. "There is a divinity within" some men which *scent*s and seizes truth by a kind of instinct; drinks it in as the fish water, despite fallacious evidence; aids Causality in reasoning; helps Comparison in discerning analogies; joins imagination in her sublime reveries; opens the door of the mind for the reception of truth; guides the social affections upon right objects, and warns against wrong; ⁴⁹³ tells us whom to trust and shun; and serves as a mental compass to warn of approaching danger, spy out future destiny, and point out the best course for happiness and success.

THIS FACULTY EXISTS. Phrenology sets this point at rest by physical demonstration. It thus constitutes a part of every well developed head, and philosophical mind; and its absence is a great deficit.

THE HOLY GHOST, Divine Grace, "the outpouring of the Holy Spirit," and like doctrines are accounted for philosophically by this principle, by its furnishing an *organ* on or through which these influences can be exerted, but by no other. Conversion is also explainable on this principle, namely, that it awakens this spiritual phase of the Faculties. Through it men can spiritualize and convert one another.

WITHOUT this Faculty we could form no more idea of God as a spirit, of an immaterial disembodied spirit, or the immortality of the soul, or of anything not material, than the blind of colors. But man *has* these ideas and feelings, and they are as well defined and distinct as any of his other sentiments. Therefore, they spring from an internal fountain, an inherent Faculty, else, whence children's questions about heaven, God, etc.? How could they *talk* on what they did not first *feel*, or feel without a primal *Faculty*. We christen it Spirituality, as very much more expressive of its true function than "Marvellousness," "Wonder," or any other name.

215.—DESCRIPTION AND CULTIVATION OF SPIRITUALITY.

LARGE.—Feel by intuition what is right and wrong ; are guided by prophetic inspiration, forewarned against danger, and led into right ways ; feel internally conscious of what is true and false, best and not best ; love to meditate, muse, and open the soul to the influx of truth ; perceive and know things independently of the senses or intellect, and, as it were, by prophetic intuition ; experience that spiritual communion with God which constitutes the essence of true piety ; are clairvoyant, and, as it were, “forewarned ;” combined with large Worship, hold intimate communion with the Deity, and take a world of pleasure in that calm, happy, half-ecstatic state of mind thus caused ; with large Causality, perceive truth by intuition, which philosophical tests prove correct ; with large Comparison added, have a deep and clear insight into spiritual subjects ; embody a vast amount of the highest order of truth ; and clearly perceive and fully realize a spiritual state of being after death.

FULL.—Have a full share of high, pure, spiritual feeling, and many premonitions or interior warnings and guidings, which, if implicitly followed, conduct to success and happiness through life ; and an inner test or touchstone of truth, right, etc., in a kind of interior consciousness, which is independent of reason, yet, unperverted, in harmony with it ; are quite spiritual-minded, and, as it were, “led by the spirit.”

AVERAGE.—Have some spiritual premonitions and guidings, yet they are not always sufficiently distinct to be followed ; but when followed, they lead correctly ; see this “light within,” and feel what is true and best with tolerable distinctness, and should cultivate this Faculty by heeding its suggestions.

MODERATE.—Have some, but not very distinct, perception of spiritual things ; rather lack faith ; believe mainly from evidence, and little from intuition ; with large Causality, say “Prove it,” and take no man’s say without good *reasons*.

SMALL.—Perceive spiritual truths so indistinctly as rarely to admit them ; are not guided by faith, because it is weak ; like disbelieving Thomas, must see the fullest *proof* before believing ; have very little credulity, and doubt things of a superhuman origin or nature ; have no premonitions, and disbelieve in them ; have no spiritual guidings, and lack faith.

IT GIVES A VISION which the sun cannot enlighten, nor thick darkness intercept ; which sees with the optics of angels, and gathers pearls

from the ocean of universal truth ; which distance cannot hinder, and which reads the book of fate before time breaks its seal ; which reveals what shall be when the earth becomes old, and the sun goes out ; fills the soul of man with a flood of holy ecstasy and heavenly rapture ; so spiritualizes mortal vision that we can see God as a spirit, and adore Him "in spirit and in truth ;" and softens the pillow of death with visions of guardian angels waiting to escort us to Paradise.

ITS DEFICIENCY in Anglo-Saxons is most apparent, and almost universal. It does not reach mediocrity in one out of hundreds, and Continuity excepted, is the least developed of all the organs ; and yet Nature obviously designed it to be one of the largest. It is certainly as useful as any, and should, therefore, be as assiduously cultivated. Its own enjoyments equal, probably surpass, those of all the others, at the same time that it seasons the action of all the others with the flavors of heaven. It so purifies the soul as to redouble many times over every pleasure, even of earth ; so exalts the mind and all its appetites and passions, as to dispose and enable us to see God and love Him, in all the works of His hands ; imparts a heavenly relish, zest, and exquisiteness to the domestic affections, animal propensities, intellectual operations, and especially moral virtues, which words utterly fail to portray, and which, to be appreciated, must be FELT. Yet this is experienced only by the chosen few. Man is yet too low in the moral scale to derive much pleasure from it ; but, reader, there is proffered to mortals, in its due exercise, a holy joy, a heavenly serenity, a delightful communion with the Father of our spirits, even an ecstasy of divine love, which is akin to the felicity of angels, and which actually constitutes that felicity. Heaven "is not far from every one of us." We need not wait till we reach its shores, before we taste its nectar. This spiritualizing principle imports it to earth, at least sufficient to sustain us in our journey thither, and creates a hungering and thirsting for this bread of heaven and water of life. Little do we realize how happy it is possible for us to become on earth, by its due exercise, in communing with our own souls and God ! By so doing we can mount Pisgah's soaring heights, "view the promised land," be literally translated to paradise, and revel in all its spiritual luxuries. Heaven is around and WITHIN those who duly exercise this heaven-constituting Faculty. All this, and much more, is not imaginative rhapsody, but sober, philosophical deduction on the one hand, and experimental reality on the other. This sublime truth will

not be appreciated by the many, because of the low state of this Faculty; yet the "spiritually-minded" few will feel the sacred response in their own souls; and all who will inquire at the shrine of their inner man, will experience enough to confirm the witness.

TWO CLASSES OF FACTS corroborate this great practical truth of the exalted enjoyment conferred by Spirituality. That religious conversion often fills its subjects with an indescribable rapture of love and "joy in the Holy Ghost," is an experimental and observable fact. This ecstacy is not counterfeited, but FELT. Many readers are its attestant living subjects; and it so infinitely exceeds all the other joys of life as to beggar all attempts at description. Now this joy consists only in the exercise of the Faculties, especially of the moral, all of which it greatly quickens. But this heavenly rapture is not the product of Kindness, or Conscience, or even Worship, mainly, but of that spiritual exaltation of mind we are attempting almost in vain, because, it so infinitely exceeds the language of earth, to depict. The former help swell this flood of holy joy; but the latter constitutes its channel, and the main body of its holy waters. And these heavenly ecstasies of recent converts, are but as new-born babes compared with the angelic raptures it is possible for mortals to experience. PROGRESSION is nature's motto. PERSONAL progression, especially in moral excellence, and therefore in all its joys, is the glorious prerogative of every human being.⁶⁴ Then why cannot these converts go on "from glory to glory," every successive year and hour of life, till heaven consummates their joys? And why not all be equally happy? But why enlarge? The *principle* involved must be apparent to all, and its personal application to our own souls palpable. Now this ecstacy of joy must have both its cause and its instrumentality; both which are found in Spirituality. We all have only to reach forth our hands and pluck this golden apple of paradise, and feast on it through life. Then, besides enjoying a heaven below, we shall be ripened for a heaven above. Bear in mind that all this is but rigid scientific deduction from the normal function of Spirituality, which no previous phrenological author seems to have appreciated.

THE OTHER class of facts appertains to a certain delightful state of mind consequent on a pure, holy, heavenly tone or state, capable of being experienced by all the propensities and feelings. Examples will best illustrate. The low, vulgar, animal, sensual indulgence of Amativeness, confers a poorer coarse-grained kind of gratification, yet

how infinitely more happifying that spiritual love experienced by two kindred souls when basking in the sunshine of each other's love, and sipping the nectar of heaven from this flowing-together of spirits? Ambition experiences a coarse species of pleasure in the rude ha! ha! provoked by some monkey prank, or by excelling in eating, fighting, wrestling, etc; yet how far higher the order of pleasure taken in commendations for intellectual and moral excellence? Dignity experiences a crude, coarse-grained pride in exhibiting its golden possessions and external trappings, yet how infinitely higher the order of pleasure experienced by it in viewing the dignity and glory of the human constitution.¹⁸⁹ This law equally governs all the intellectual Faculties. Sight-seeing gratifies physical Observation, but moral infinitely more. Causality experiences a lower order of pleasure in adapting physical ways and means to physical ends, yet how almost infinitely greater in studying and applying those higher laws which appertain to intellect, morals, and the Deity! In short, a physical, and also a highly elevated, tone or caste of action appertains to all the Faculties, and the order as well as amount of happiness experienced in the latter are almost infinitely higher than in the former. Now Spirituality lifts them all up out of this sublunary function, and carries them on its own heaven-tending pinions, into this exalted and most beatific state, and thus in addition to all the delights conferred by itself directly, almost infinitely exalts and enhances the happiness conferred by all the others.

HAPPINESS-SEEKING READER, allow this home appeal. Are you content with this animal tendency of your Faculties? Do you not experience a perpetual "aching void," which this world is utterly inadequate, as it was never designed, to fill? Are gold, silver, lands, all the treasures for which you long? Do you not experience an indefinable want which nothing earthly has the power to satisfy? You eat material bread, but does that satiate your inmost SOUL? Do you not hunger and thirst after "meat to eat which you know not of," except just taste enough to show you what there is? O God! feed us on this bread of heaven! We starve, our souls pine and die in the desert of these vain pursuits. Give us of these grapes of paradise till we revive and gain strength to enter the "promised land!"

THE CULTIVATION of Spirituality is of course commensurate with these antepasts of heaven it was calculated to bestow. Shall we not EXERCISE it? Yet we must not expect to carry heaven in one hand and earth in the other. "No man can serve two masters." "Where

our TREASURE is, there will our" joys be also. We cannot revel in this gross animal caste of our Faculties, and also in their holy aspirations. You who are content to go on as heretofore, have your way before you ; advice is useless ; but ye who would renounce this coarse-grained function of your Faculties, and feast on the riches of heaven instead, hear. To experience these holy joys, this spiritualizing Faculty must be CULTIVATED. And to do this, put off this worldly phase of all your Faculties, and exercise them in accordance with this analysis of Spirituality.

MEDITATION consists chiefly in its exercise. Commune with your own soul and your God ; not at times " few and far between," nor hurriedly, but daily and long. Shut the terrestrial door of thy soul, and open its celestial windows, and there give way to spiritual reveries. Let it go out after God, and imbibe His spirit. Feast on His love. Contemplate His character as exhibited in his works. Assimilate and attune your feelings and innermost soul to His divine likeness.²⁰³ Wrestle with Him as did Jacob. Put away all unclean thoughts and desires, and long after purity and moral perfection. Yet you need not shut yourself up in the dark. Natural light does not intercept but promotes spiritual. The open canopy of heaven, cultivated fields, deep, still forests, flower-bedecked lawns, murmuring brooks, beautiful, magnificent landscapes, above all, rising and setting sun, morning and evening twilight, the glowing east, the gold-tinged sky of departing day, have a magic spell which inspire us with a sense of His presence, and infuse into the soul those spiritual longings and emotions we would show how to cultivate. If I had been brought up a Parsee, I should have been a devout worshipper of the morning sun, and offered up soul-melting homage to the departing god of day. But glory to God, I can worship the CREATOR of the sun at his morning advent and evening departure. Memory cherishes with inexpressible delight some choice gems in its casket, but none as bright as those sacred seasons, when, at evening twilight, I went into wood, dale, or field, to meditate, and hold sweet communion with the Father of my spirit. To these holy seasons I owe eternal thanks, as both the happiest and most profitable periods of my eventful life. There I learned lessons taught nowhere else, and taught by God himself. These holy seasons, the cares of the world, pressing professional engagements, etc., have been wickedly allowed to interrupt, yet not to efface from memory's sacred tablet. SOULS should be fed with this manna from heaven, though bodies starve. Reader, shall we not go

forth at evening twilight together, and gaze upon the ever-varying beauties and glories of Vesper, to think on heaven and God, and to seek that conformity to His image which shall fit us for its joys? And shall we allow dull sloth to rob our souls of Aurora's smiles as she comes forth to light up the face of nature? Shall birds arise with the dawn and sing anthems of praise to their God, and we not to ours? especially since we have so much more for which to sing! Nor is the starry canopy of heaven so inferior a temple for divine worship. Yet none need condemn the comforts or blessings of earth. We need not cease to indulge our worldly Faculties on terrestrial objects in order to attain these spiritual pleasures. The animal instincts are not at enmity with this spiritual state of mind, but, rightly exercised, actually promote it. We may love food and property, friends and praise; may fully exercise every other Faculty, not by stint, but intensely; without in the least interrupting Spirituality. Indeed, we cannot exercise it without exercising them also. We may, must, love this world, "yet as not abusing it," not in predominance, but subordinately, and in *connection* with our moral Faculties. Indeed, by this union alone can we truly enjoy it. He whose whole mind is on this world, does not, cannot, enjoy even it. To derive its full quota of happiness from any one department of our Nature, it must blend in action with all the rest.⁶³ We cannot possibly love the world too much, only wrongfully. Yet our animal Faculties require to be SANCTIFIED by the conjoint action of our higher.¹⁹⁶ By "not carrying earth in one hand and heaven in the other," was meant, making an idol of earth—loving it exclusively, or on its own account. Neither without the other, but both in delightful concert. Yet we all love this world too much, relatively, and hence give it most of our time, and can hardly spare from it an hour, morning and evening, for meditation, even after we have given the entire day to our animal Nature. The body was never made to engross nineteen-twentieths of human time and money.²⁶¹ Our higher Faculties are the superiors, and if either must be slighted, neglect it; yet there is time for both. Let us take it. But its cultivation is by no means limited to these appropriated seasons. Every hour of the day, be our avocations what they may, in sequestered wood, or thronged, uproarious city, this feeling can be and should be exercised, in ADDITION to its morning and evening repasts. Especially can it be cultivated by following its premonitions.

216.—IMMORTALITY, AND ITS PROOFS: ARE BRUTES IMMORTAL?

IS DEATH OUR LAST? or only the vestibule of a life to come? What of the resurrection from the dead? Is life beyond the grave a myth, or a veritable reality? This august problem we propose to discuss from the standpoint of the *constitution of the human mind*. Faith is good, but adding *knowledge* improves it. Many in these investigating days doubt it. Let all such hear and heed this fiat of *science*.

THIS SPIRITUALIZING FACULTY is incorporated into our minds by our all wise Creator: A mental element with its cerebral organ, has been devised and inserted into both the mentality and the anatomy of man! This simple fact embodies in itself a volume of spiritual truth. Reader, have you yet duly appreciated what a mental Faculty is? Reread^{3 11 34} and you will see how *great* a part each plays in the human mind; and that it puts man in relation with a great *fact* in Nature, or, rather, *system* of facts and principles. Of course all this holds true of Spirituality. Its office is no trifle, nor is that department of Nature to which it is adapted, and adapts man.

SPIRITUALITY is the name which expresses its function, according to my observation, more perfectly than any other. I thus christened it in 1842, in one of my earliest works, and have seen it confirmed by all subsequent experiments. That this name also exactly expresses the function ascribed to it by Gall, Spurzheim, and Combe, is fully proved by all the above quotations from these phrenological fathers.²¹⁴ Spurzheim came near giving it a name which meant the same thing, and in all he says about it ascribes to it this precise function we give; and Combe, though he calls it "Wonder," yet, in describing it, gives it the identical function here given. Thus, the phrenological record is just as clear and positive as anything could make it, that its specific office is to commune with spiritual beings, a spiritual God included. Assuming here what we demonstrate in³³⁻⁴⁹, that Phrenology is true, and that Gall, Spurzheim, and Combe pronounce this Faculty established and confirmed, and ascribe communion with spirits as its specific function, we plant ourselves squarely on this fact, that there exists, as forming a part of man, an element which puts him in relation with spiritual beings. This Faculty exists in and of him, and adapts him to a world of spirits: therefore a world of spirits exists, adapted to this Faculty. That identical argument by which we proved the being of a God from Worship, *mutatis mutandis*, when applied to Spirituality, proves the existence of spirits,¹⁹⁹ and

also spiritualizes all our other Faculties.²¹⁵ That argument need not be repeated, and is just as absolute here as there. We let it speak for itself; and proceed to build a superstructure on this "rock of ages."

ITS JUXTA-POSITION WITH HOPE furnishes additional proof of this immortal existence. All organs located together naturally act together. This obvious law is abundantly proved by the grouping of the organs; and the fact that Spirituality and Hope are located side by side, demonstrates that they were created to act *together*, and the legitimate result of such conjoint action is *hope in a spiritual, immortal state of being*.

THE UNIVERSALITY of this belief in immortality proves that it must have some natural basis in the human mind, else it would soon have vanished; and Phrenology thus shows that this hope is a *legitimate*, normal function, not a fungus, nor a creature of education, but an inherent *intuition*. If Hope had been adapted to confine its action to this world's interests it would have been located among this world's organs; but it is located by the side of Spirituality that both conjointly may hope for an immortal spiritual existence.

"PLATO, thou reasonest well. Else, whence this pleasing hope, this fond desire, this *longing* after immortality."—*Shakspeare*.

THIS EXPRESSES a sentiment which swells up in every well constituted soul, and which has its counterpart in the immortality it desires, just as Appetite has its in food, the eye its in light, etc.

ITS SURROUNDING ORGANS are even more demonstrative of immortality. Thus it is located by the side of Sublimity, which creates the sentiment of vastness, illimitability, infinity, and eternity,²³³ showing that a boundless and an infinite existence awaits these inherent hopes of immortality; and by the side of Worship above, that it may hope to see God hereafter, and become spiritualized like Him.

THE ORIGIN of life still farther proves its spirituality. It originates in the *mind*, not body. It is the offspring of *Love*, that is, of a *mental* Faculty,^{172 662} an emotion, which brought its creating parents together, and without which life can never be originated. Please note the complete demonstration of this point in Sexual Science, Parts II and VI, and learn from that, and from¹⁸, that man is a *spiritual*, not a material entity, and therefore immortal. What is begotten of the mind, must be an inherent mentality.

AGE SPIRITUALIZES AND MORALIZES. Originating in littleness infinitesimal, and assisted by maternal aid, it grows on, till, able to

sustain independent life, it is born. But born almost idiotic, not knowing even that fire will burn, and barely able to sustain passive existence. Yet it grows on in statue, in perception, in all its senses and desires, until anon it can walk, then run ; but grows on still, throughout all its functions, literally aching with strength, impetuous in desire, observing, inquiring, memorizing, learning daily and indelibly by experience, beginning to think, and making rapid strides on the highway of natural self-development, all along up through childhood and youth ; "sowing wild oats" broadcast ; full of blood and passion ; bones fast consolidating ; muscles sinewy and vigorous ; susceptibilities ever reinforcing ; new fields of delight continually opening out ; affectional, acquisitive, achieving, etc. ; until there stands the full-grown man, with bones like iron bars ; sinews lion-like ; all the passions in full blast, yet regulated by intellect ; moral tone constantly rising ; and the whole being struggling to expand and develop.

A CONJUGAL MATE, at about twenty, immeasurably redoubles all life's joys in a "friend which sticketh closer than a brother." Love breaks the seal of a new and incalculably delightful fountain of happiness, as well in anticipation as fruition, which strengthens as it continues, till it ripens into the tenderest emotions and sweetest pleasures of our nature. Though the course of true love rarely does run smoothly, yet it always might ; and though marriage often diminishes love and its sweets, yet that its constitutional tendency is vastly to enhance them, is fully established in "Sexual Science," the causes of this decline explained, and directions given for becoming more and more affectionate and happy every succeeding day of married life. The "honey-moon" barely ushers in those hymeneal pleasures for the perpetual augmentation of which through life Nature has amply provided. Ask all who have lived in affectionate wedlock forty years, whether they would exchange a week or year of present connubial pleasure for that of any previous week since they first loved, and learn and heed, in their prompt negative, the great practical truth that love and all its exalted delights are progressive.

PARENTAL LOVE also unseals still another source of transports. Every successive heir is constitutionally adapted to increase parental endearments and domestic enjoyment. When it does not, ours is the fault, not Nature's.

"But its death often renders us most wretched."

IT NEED NOT DIE.^{70 71}

"But the family increases our cares and troubles."

It often does, but never need to. Nature has also ordained the increase of property and the comforts of life with years, and of course all the pleasures they yield. And thus of honor, self-reliance, discretion, manual skill, taste, the application of causation, and, indeed, all that we do, know, and are.

"AGE DIMINISHES PHYSICAL action, and of course capabilities of enjoyment. The elastic step finally begins to falter; senses fail; sight grows dim; and passions subside. A marked failing occurs in most important respects. Now is all this a decline of the *man* himself? for if so, we must accept annihilation as the finale of life. Can decrepit old age enjoy muscular exercise equally with sprightly youth?"

It relishes quiet better, and what it does do tells far more than the mettlesome, ill-directed exertions of the young. The older we grow the more we husband our steps and strength, make every blow tell, and do more with less labor. Healthy old age, too, is generally sprightly.

"But Appetite and its pleasures certainly diminish."

By a Law of Appetite it relishes favorite dishes more and more, the more we indulge in them.⁶⁴

"YOUTH IS FREE at least from those pains and diseases contracted through life, to which age is generally subject; and the Bible expressly ascribes 'trouble and sorrow' to those who exceed seventy."

IT SIMPLY DECLARES a then existing general *fact*, not the necessary doom of all. This usually is the case, because men generally violate the physical and mental laws through life, and must, of course, abide the consequences in old age; yet neither such violations, nor their penalties, are NECESSARY. Those who become more and more diseased do so because they violate the physical laws more and more as they grow older, and of course become more and more wretched; yet we speak of those who through life *fulfil* the ordinances of their Nature, not violate her requisitions, and thus incur her penalties—of what *might and should be*, instead of what is.

"But look at facts. See how much more happy, sportive, and gay, childhood and youth than middle and old age. Ignorant of the world's wickedness, unrestrained by its customs, unconscious of its troubles, as happy all day as larks, yet their morning sun always *does* merge into a cloud of sorrow, or a storm of adversity."

DOES AND MUST are two things. Our capabilities of being happy increase with years: then why should not our happiness? It would,

as invariably as it now declines, if men only knew HOW TO LIVE. Nature has done her part toward rendering us all more and still more happy every succeeding year and day of life from birth to death, and he who does not, fails to live up to his glorious privileges and destiny ; nor should any be content unless they do. Yet those who still reject this improving doctrine are quite welcome to its down-hill converse, and their own consequent "growth in misery" instead of "good." But it is set completely at rest, and all cavilling silenced, by the constitutional fact that—

INTELLECT IMPROVES WITH AGE. In what does the inherent essence of humanity consist? In its physical functions? In even its passional impulses? In neither; but in its intellectual and moral Nature and capacities.¹⁸ Reason and moral excellence crown our being. By common consent, those stand highest in the human scale, not who have the most brute force, nor passional violence, but *philosophy*²⁶⁷ and *morality*.¹⁹⁶ If advancing age heightens *these*, even though it palsies the lower functions, it reimproves. Then does it? Let both physical facts and universal experience answer. At first, only the base of the brain is developed, and during childhood, its animal region predominates over its moral and intellectual lobes. But it grows faster, relatively, in its intellectual and moral regions than in that of the propensities. Accordingly, childhood is most passional, and middle age both passional and intellectual, but senility more intellectual than passional. Hence many dissipated young men become highly moral and talented when they reach their meridian. Probably most readers are conscious that their passions soften with age, while they become fonder of knowledge and study, and find their tastes and entire characters growing in elevation as they grow older. Age matures judgment, increases love of reading and disposition to think ; and ripens all the Faculties, while it softens and sanctifies the propensities. Elders are more prudent and provident than juniors, and juniors more reckless than seniors. How often do we excuse the follies of youth with, "O, he's young yet; he'll live and learn." Not to pluck feathers of conceit from the ambitious cap of young folks, yet unless many of them know more, and do better, hereafter than heretofore, they will at least have little ground for boasting. In the very Nature of things, observation and experience *compel* all to learn faster than they can forget. The proverb is—and these old maxims always express great truths—"Old men for counsel." Now, is not wisdom the very highest attribute of humanity? And does it not increase with age?

THOSE GREAT BOOKS handed down from past ages were not written by striplings, but mostly by men in life's "sear and yellow leaf." "Paradise Lost" and "Regained" were begun after the blind bard was fifty-seven. Seneca mastered Greek after he was eighty. The "old man eloquent" was most learned and eloquent when past fourscore. John Pierpoint wrote many of his best poems late in life. The most splendid intellectual efforts ever put forth, were made by men after their physical energies began to wane. Then, since age strengthens intellect, weaken whatever else it may, does it not improve the man? Especially since age elevates the moral Faculties. Moral excellence consists in a *long line* of good feelings and right actions. Then cannot one have felt more good feelings and done more good acts at forty than at twenty? At sixty than forty? At eighty than sixty? And the last day and hour of a well-lived life than at any previous one? What prompts that deference, respect, and honor always spontaneously paid to gray hairs? Their intrinsic *worth*, and constitutional superiority.

ELDERLY CHRISTIANS are more pious, humble, and consistent, though perhaps less fervid, than youngerly. Are not good old people better than young? Friendly elders more cordial than juniors? and grandparents fonder of children than parents? In the very Nature of things, age sanctifies and elevates the passions, and ripens up the moral character as it does good fruits. And if it sometimes increases craft, cunning, irritability, and depravity, this is consequent on its perversion, or else on physical conditions, not on age as such.

AGE ONLY SPIRITUALIZES THE PASSIONS, instead of weakening them. "Young people's" Ambition runs towards dress, beauty, and fashion, and seeks praise for physical excellences, while that of "old folks" runs chiefly on their *mental and moral* attributes. A young beau seeks admiration for his clean linen, well fitting coat, short-shorn face, white kid gloves, and sparkling jewelry; while old men tell you what worthy *things* they have done. Compare the pride of grandmothers for their descendance and spotless lives with that of their granddaughters for personal beauty and accoutrements, and say which is highest and best.

FRIENDSHIP redoubles with age. Young folks think they are very cordial, but after they have grown up, matured, and declined, they will find their young affections puerile. I met my old college class-mates twenty years after our graduation in an all night's supper, recounting our college and subsequent lives, and found we liked each

other manifold better than than at our graduation ; and again ten years afterwards found our mutual attachments greatly strengthened, and in a ten years subsequent reunion redoubled still. Say, soldiers, is not this true of your martial friendships and reunions? It is a life law that age strengthens Friendship.

LOVE OF CHILDREN grows with age. Are not those who have children much fonder of them than youth? and all parents of their youngest than eldest?—which deserve pity. Are not the youngest always the pets and favorites, corseted and indulged the most? and are not grandparents always fonder of grandchildren than own children? Then does not age redouble also *this* divine sentiment? ¹⁷⁶

EVEN LOVE is both strengthened and sanctified by years. Young lovers admire each other's ruby lips, glowing cheeks, fine forms, sprightly gait, and warm fervent passions, in order to propagate the animal; while old lovers just worship each other's *minds*, not bodies, *souls*, not persons, *excellences*, not looks. Indeed, "Sexual Science" proves that there inheres in the love element itself a law by which it redoubles and sanctifies itself by use; that only old lovers who have ascended together the hills of adversity, and descended together into the vales of adversity, have together created and reared, perhaps buried children, and by mutual struggles, labors, and enjoyments become completely knit together, and confident in each other, can experience the fullest luxury of this most exalted sentiment.⁴²⁰ You who love each other's persons mainly, are strangers to love's chief luxury.⁵⁶⁰ And are not elderly gentlemen more polite and courteous to the female sex generally, and young ladies especially, than young beaux? Why? Because they *prize* the sex and *dote* on women the most.

A NATURAL LIFE SPIRITUALIZES THE WHOLE BEING from soles to crown, and sanctifies, purifies, and exalts all the passions. Not that it always actually *does* all this, for few live right lives, but that all this is the *normal* outworkings of life when its conditions are fulfilled, and will *always* obtain whenever it is allowed its "perfect work." All who are not the better every day of life do not live aright.⁶⁴ Our argument is complete and absolute, that age naturally spiritualizes all, but weakens none of the passions, and thereby precisely *fits* man for immortality!

THAT GEENERAL LAW of progress we hope to find room yet to present, proves this same improbability as applicable to the race as a whole; as do also several other laws, which want of space compels us to omit here.

SHALL GOD, then, after organizing man from the dust of the earth, and carrying him all along up higher and still higher, so that the last day of a well-lived human life finds it excelled above every other, and after taking all this divine pains to ripen up this his spiritual essence, dissipate it into thin air, and leaving no trace behind? as if he had never been? No! never!! This does *not* comport with the Almighty's universal modes of action. No! Death is *not* oblivion. Instead of being "an eternal sleep," it is "eternal life" and action even re unfolding.

IS IMMORTALITY DESIRABLE? Is it not? That is desirable which can make happy, and in proportion thereto. Can immortality add to human enjoyments? Can it not? Could it not be so arranged as to redouble human happiness illimitably? What is there in the nature of things to prevent? Exists there any insuperable barrier? Our enjoyments come from our *Faculties*, which, as just seen, age elevates. What inherent in them prevents their continuing to act and enjoy? Nothing; but everything shows that they are just *fitted* to go on enjoying all the more. There is nothing in the nature of things to prevent men from enjoying as much more throughout all the countless ages of eternity than here as an ocean of water exceeds a drop!

IS GOD ABLE, then, to append immortality to man? Is He not? Who shall limit His power? He Who has created this stupendous earth with all its inhabitants, the sun, with all its planets and satellites, that countless galaxy of suns our own eyes can see and number, with untold myriads beyond, Who *has* already created the human *mind* which infinitely surpasses physical nature, can also append immortality to this mind.

IF HE CAN HE WILL. His love to man knows no bounds. All He possibly *could* do for him He has done. What are all human wants and their supply but special tokens of divine love and goodness shown him! Is he not His special pet and darling? Please recount all He has done for him in creating this blessed earth and fitting it up, its very bowels included, with so many necessities and luxuries! Yet, are we not perpetually discovering new means of human enjoyment, as in coal, oil, etc.? Are they yet exhausted? Probably we have even yet barely begun to discover and apply them. God's love for man is as really *infinite* as are all His other attributes, and amply sufficient to warrant this conclusion that, in *case* immortality is desirable, which it certainly is, and God is able to bestow it, which He obviously is, then He *has* bestowed it. Therefore immortality is a *fact*, not a fiction.

DEATH ITSELF proves immortality. The animal functions always die first, and the moral last. What does *this* mean! Some look horribly in death because they have lived wrong lives, or induced premature dissolution; but many children and really good persons leave a benign and heavenly expression on their faces, far beyond all art to imitate. A nursing boy at noon riding his broom-stick horse in glee, must be dosed with opium lest he should *be* sick, and at sundown died! His parents were remarkably strong and longlived. Up to within a few minutes of his death his face expressed pain and anger, but at and *after*, it softened off into a calm, peaceful, serene, angelic, beatific smile altogether indescribable. No imagination could depict the joy and moral exaltation it declared. Now *whence* that smile? What *means* it? That he *felt* all it expressed, and more. That, after he had so far died as to feel the bliss of heaven, he yet retained sufficient life power to imprint it on his angelic face; which *did not lie*. That smile *originated* in his soul. His face merely *told* it to beholders. I leave its origin and its logic to readers. If death left its victims a blank it would leave their facial *expressions* likewise blank; yet it often leaves them beatific. What does *this* mean? That we, too, equally with them, *can* be as these facial expressions prove that they were, far *happier* in death than in life itself! Read, O mortals, in the lessons thus taught in death itself, of a blissful state beyond! *Answer this* proof of immortality, ye who doubt futurity.

LIFE'S SPIRITUALIZATION of all the Faculties just stated²¹⁵ proves this same point—proves a *design* devised, a *plan* working out for immortality. Why etherealize what is about to die? Why exalt life up to death, only to make parting from it the more awful? And this spiritualization *happifies*. Thus carnal love yields only a tithe of the pleasures of platonic. So of all our other powers.²¹⁵ This spiritualization of them fits them for far more exalted pleasures after death than before. It is as if a Great Architect should build a magnificent temple from corner stone to dome, with express *reference* to a crowning monument on its top; would He omit that crown? Human life all along up is but a successive *preparation* for immortality. Will then our Divine Architect prepare the *way* for our immortality, actually *begin* it, and adapt all parts of us *to* it, only to fail in this identical crown at last?

MAN DESIRES immortality. The history of the entire race proves this.²¹⁴ Say, ye who live, would you not dearly *love* to live hereafter, and give a somewhat higher premium to be made absolutely assured of

it than for terrestrial life insurance? more to *assure* life hereafter than here? This desire for it is your *ad hominem* proof of it. God would not implant, it and then not gratify it! Your *Consciousness* is your logician. Vitativeness, Spirituality, and Hope working together, create a desire and hope to cling to existence beyond the grave, and God who created this inborn desire will satisfy it with the immortality thus craved.

KNOW, then, all ye who lie down in death, that ye shall live again. Not your bodies, for they are not you.¹⁸ Not the *materials* which have entered into your organism, for they do not constitute you, have also entered into the organic composition of many others, and are of no earthly account any way; but your inner *self-hood*, your Faculties, your consciousness, your inner essence.

GLORY TO GOD for this crowning behest of life! We shouted that we lived;¹⁴ let us shout the louder and longer that we live eternally! We shouted that there was a God to worship; let us shout hosannas *forever and ever* that we are capacitated to love, worship, and become more and more like Him *throughout eternity!*

ARE BRUTES IMMORTAL? Yes. Immortality inheres in the very *nature* of the Faculties themselves,³⁴ and all beasts and birds possess them all; as does all inanimate Nature. Every Faculty appertains to everything,³ and every person, every animal possesses some of each. Immortality inheres in these primal elements, and therefore in beasts and birds. Precisely those identical arguments which prove human immortality, also prove that of animals; with this super-addition, that man has an animal-loving *instinct*. Parental love creates love for pet animals and birds, as well as own children,¹⁷⁶ loves to feed and care for dependent creatures generally, and even babes chiefly because of this helpless dependence. Appetite has several legitimate objects in its different kinds of food, all of which exist; therefore, all the normal objects of Parental Love, of which pet animals and birds form one, must accompany it throughout eternity; else it must starve to death in one of its objects. Those who have no own children there to love, old maids and the childless, will need pets there as here, even though they may have other people's children there to love.

WHAT OBJECTION, after all, to them, infinitely perfected? The horse-contagion brought us all to some realization of our dependence on "horse flesh," as the "cattle plague" has on bovines. We little realize their utility, and how much they contribute to our enjoyments

here; and should thank God that He has fitted them for us, and rendered them docile and serviceable. Then why cannot the same Infinite Benevolence continue to continue and even enhance their utility there?

BEAUTIFUL BIRDS are no nuisance—what if they do eat cherries—instead are a great pleasure. I always drop a tear of regret at their October departure, and another of pleasure and joy on their March return; and hope I may *forever* be regaled with their merry morning concerts and all day chirpings, without any winter's intermission. Whatever *God* makes He makes good enough to *live forever*. And we may safely leave the details of their future existence to Him.

217.—THE CONDITIONS AND SURROUNDINGS OF LIFE EVERLASTING.

How shall we exist after death? What of the *details* of this future state? Must we wait till our spiritual eyes are opened by death in order to learn our eternal future status and surroundings?

No, O man. God has graciously *revealed* them unto us in and by our own consciousness. Those mental laws which prove immortality,²¹⁷ also tell us all about its conditions and details. They tell us that—

1. OUR IDENTITY will remain unchanged. We shall be precisely the very same identical *beings* there and then we are here and now. If death destroys our personality; if it leaves us not ourselves, but a dog, a fly, a lion, none would care to live. We all desire to exist hereafter *in propria persona*, be the same identical *beings* there, perhaps modified somewhat by death as here by age, yet we our own veritable selves *here* desire to be, and therefore will be, we our own selves there. I O. S. Fowler here will be I mine own self, and nobody else there, not a mongrel.

2. OUR FACULTIES constitute this personality.³⁴ They of course must live. And all of them. This is too plain to be argued.

3. THEIR FOOD, that on which they *act*, must also exist there; else their existence must needs be an unmitigated curse, and far worse than annihilation. These propositions are immeasurably important, but too obvious to need arguing. Let us run them out in detail.

4. WE SHALL KNOW EACH OTHER there as here. You will preserve your identity, and I mine, and our power to *recognize* each other. Your child-boy dies. You his mother live, and grieve. Grieve not. He is not dead, but alive, and is far better off than if he had lived here, for we have already proved that death is a boon, a blessing, a good, not evil.²²⁶ Therefore it improves his status. And you *will see and*

know him—not surmise, but absolutely *know* that this really is your own identical Johnny. He had your specialties of mind, character, talent, likes and dislikes.³¹⁷⁻³²² These Faculties in their relative degrees of power here, will be retained there, grown and improved, but the same in degree and spirit.

ALL OUR SPECIALTIES, tastes, likes, dislikes, idiosyncrasies, etc., must needs accompany us. They constitute our inner selfhood. Our Faculties constitute our entity. All of us have the same, but in different relative and absolute *proportions*,³³ which create both our specialties and our selfhood. Of course, what we like here we shall like there, doubtless modified, but generically the same. Those especially poetical or philosophical, conservative or radical, refined or coarse, studious or stupid, clear headed or dull, oratorical or taciturn, or anything else, and the peculiar phases of each specialty here, will be substantially the same there, only immeasurably augmented; because they all depend upon that *relative* vigor of our Faculties, which is to be retained there.

“What! Any stores and banks, any business and bartering *there*! Or any eating, drinking, farming, stock raising! Any flowers and fruits! Any wars or collisions! Any marrying, or ‘giving in marriage!’ Any parents, children, families, lovers, homes, gardens, grounds, travelling, etc.! Any poetry, music, manufacturing, conversation, assemblages, lectures, etc.! Any of the ologies and sciences?”

THE FRAME WORK and general outlines of our Nature here and there must needs be substantially the same in both spheres. And the general make-up of this state is plenty good enough for that. But these elements will be very much more spiritualized, and purified. For example: We eat material bread and fruits here, but are not knowledge, thoughts, ideas, etc., to the *mind* precisely what food is to the body? Can we not “hunger and thirst after righteousness,” as well as beefsteak? Do not authors often serve up intellectual and moral *feasts* to their readers, and speakers to their auditors? that which feeds, satisfies, and develops their intellectual and moral Faculties, and makes them grow mentally? Does not this book feed *your* spirit entity? Mental food will superabound there, and find plenty of hungry consumers. We “drink in” truth here, why not also there?

MENTAL RICHES exceed physical. Two brothers inherit \$1000 each in gold. It is property, and feeds Acquisition.¹⁶³ A. “invests” his in corner lots and material property, which he so manages as to become immensely wealthy; while B. invests his in an education and

a library, which he improves by study. His books, even unstudied, are as much property as deeds and stocks, but of a far higher order ; and when he incorporates their knowledge and thoughts into his mind, is he not richer than his brother ? Both are rich, A. materially, B. mentally. Our next life will facilitate these mental and moral acquisitions *ad libitum*, and furnish this arena for speculation, viz., investing in the pursuit of this *kind* of knowledge, or of that, and enhancing this or that kind of moral excellence and virtue.

WAR ON WRONG will be in order there as well as here, and moral courage here and there is a higher phase of its Faculties than physical. This applies equally to moral Firmness.

ALL THE LOVES will exist there as here, doubtless purified, but the same identical elements. Our male and female natures, which inhere much more in our minds than bodies,⁵⁹² will form as constituent a part of us there as here. Their end here, physical propagation, requires their animal aspect, which age softens and ripens, as just seen, into love of the *mentalities* of the opposite sex ;²¹⁶ and this phase of Love will be immeasurably enhanced there.

MENTAL SEXUAL CONVERSE, that is Platonic love here and there, begets *ideas* and *virtues*,³⁸³⁻⁴¹¹ as physical does offspring. Young lovers, all lovers, will love each other's *spirit* sexualities immeasurably better there than physical here.

SON-AND-MOTHER, and daughter-and-father love will obtain and be augmented there beyond conception. See explanation of these loves in "Sexual Science,"^{482 483} as also of the intermingling of the sexes in parlors and society,⁴³⁹⁻⁴⁴² and expect that higher and holier deportment of our sexual relations redoubled illimitably ! Balls and parties will obtain there, greatly improved ; and good old friends will be older and better friends there than here. Establish them here, so as to have them there.

TO HOME, "mansions," etc., these same principles apply equally. Yet readers can make them for themselves. So of places, locomotion, travelling, etc. We shall be permitted to visit and inspect different worlds and assemblages of worlds there, as we do different villages, cities, states, nations, and continents here, and travel cheaper, easier, and faster.

HISTORY is ever being made there as here, and can be studied, and experiments, chemical, philosophical, agricultural, phrenological, and all others here, will exist, and can be tried there as here. Of course, all mathematical, geometrical, conical, astronomical, and all other kin-

dred laws and facts, as well as our Faculties for studying them, will be the same in *kind* in both spheres, only illimitably redoubled.

MUSIC, sacred and secular, major and minor, along with dancing, of course improved upon, will obtain there as here; yet music will not be *confined* to *psalm*-singing.

KINDNESS, the genuine missionary spirit, will exist there immeasurably redoubled. Without any doubt it will be permitted and encouraged to revisit our terrestrial friends, children, parents, and descendants, to confer *individual* good on each, and in ways innumerable, and greater than we can imagine. Indeed, do not many of *our* forewarnings and guidings, "special providences" included, come through our individual personal spirit friends? Happiest here are those who have the most sagacious and devoted friends there. We are doubtless receiving much more good from them than we ascribe to them; and could receive vastly more if more susceptible to their forewarnings and inspirations; that is, if we duly cultivated Spirituality. Many of us doubtless drive off some, and that the best of them, from us by our vices and self-defilements, who otherwise would hover around and bless us. Let us make ourselves worthy beneficiaries of their benefactions by purifying and sanctifying ourselves, and opening our souls to their spiritual influence, by meditation, etc.²¹⁵ Nor grieve inordinately when one and another loved one here goes on before us to prepare mansions for us there. Rather rejoice at every new *spirit* friend. We think our analysis of Spirituality made this point—the *possibility* of spirits and mortals intercommuning with each other—apparent and demonstrable.²¹⁴

CONVERSATION, and the interchange of ideas and sentiments, throughout all their forms of talking, writing, public speaking, etc., will form a *staple* part of that state, as of this, and both inconceivably more perfect in kind, and greater in amount. Words will of course be used. Nouns, verbs, adjectives, and other elemental "parts of speech" are inherent in all languages, and in the nature of things,²⁶⁵ and must of course be continued here; but I opine that *natural language*, including facial expression, by far our most perfect medium of communion here, will be the chief language of heaven. Our celestial tête-à-têtes, speeches, letters, writings, etc., will surpass our terrestrial as oceans exceed rivulets.

THESE ILLUSTRATIONS will enable readers to fill out this celestial picture through all its details. Please note that all this, together with volumes like it, grows legitimately out of the 1, 2, 3, and 4, etc., with

which we opened.²¹⁷ Neither those principles nor these necessary inferences can be controverted. We shall under subsequent organs, particularly Conscience, state principles which modify, or rather *add to* these doctrines. This inference deserves special notice here.

ALL IMPROVEMENTS of our Faculties here puts them and us upon far higher ground there than if they had not been made here. This state is probationary, an apprenticeship, and to that life what the antenatal state is to this. Let us make the most possible of *this* life as our true way to make the most of that.

218.—SPIRITUAL PRAYER, SPECIAL PROVIDENCES, COMMUNING WITH DEPARTED FRIENDS, VISIONS, ETC.

SPIRITUALITY PRAYS. Indeed, all our Faculties pray each for its own gratification.—Acquisition for dollars, Friendship for friends, Kindness for sufferers, Intellect for knowledge, Ambition for fame, Force for triumph, Worship to become like God, etc.²⁰³ Spirituality also has its prayer in spiritual communion with God, and “the spirits of just men made perfect.” To *bring something to pass* is considered its chief office, yet its real shrine, its *sanctum sanctorum*, obviously is to *spiritualize our minds*, and bring our souls into *spiritual rapport*, and intercommunion with God and superior spirits, and induce that *permanent* spiritual state which foreknows the future, perceives truth, etc.²¹⁴ Speakers when especially anxious to impress truth naturally throw themselves into this prayerful mood, in which truth flows into them, and radiates into the souls of all who hear. “If any man lack wisdom, let him ask of God, who giveth to all liberally, and upbraideth not.” This aspect of prayer shows *how* God giveth wisdom, namely, by and in the very act of praying, we throw our minds into that spiritual state in which we perceive truth by intuition. As a means of arriving at truth, nothing equals prayer, and he who does not pray, is compelled to obtain truth through intellect merely, and plod and dig for that which a prayerful spirit perceives at once with perfect certainty. And, then, how happy, holy, pure is the praying soul! How transported from earth into that blessed state which awaits the pure in heart!²¹⁵ Let scoffers laugh, and the sons of sin and lust forget to pray, but let us bow the knee of humble prayer, lift the eyes of devotion to God, and hold sweet communion with Him till we become embued with His spirit, and are transformed into His image! By spiritualizing the soul, prayer prevents grossness and sinful animal indulgence, and refines, elevates, purifies, and exalts the soul more than words can tell, but not more than many readers feel.

BUT LITTLE GENUINE prayer is exercised. Many clergymen *preach* in their prayers, to impress some *truth* upon hearers rather than to call out their souls in pure devotion. Let all preach when they preach, and pray when they pray. These *preaching* prayers are out of place. Besides, they substitute the form for the thing, and thus satisfy the praying appetite, without feeding this praying spirit.

SPECIAL PROVIDENCES are caused and beautifully explained on this identical principle of spiritual intercommunion of mortals with spirits. They exist;²¹⁷ retain their loves established before their death;²¹⁷ and, of course, their affection for us, and interest in our welfare, which is augmented equally with all their other powers, so that their inner souls yearn to bless and aid us.²²⁷ Would God *prevent* them? Shall He who loves and does so much for us not allow and facilitate *their* doing us good likewise? As He shows His love for children by inspiring parents to do for them, shall He not, for a like reason, let *them*, too, aid us! His entire "policy" answers yes, and assures us that "guardian angels," and they our *own* dear, tender terrestrial friends departed, our spirit father, mother, companion, children, and friends, are our "ministering angels," communing with us, guiding, forewarning, pre-arranging those causes which shall work out good to us, foreseeing what accidents are liable to happen to us, and somehow preventing our running into dangers; in short, preparing what is practically tantamount to "special providences," which become "divine interpositions," in being carried out by His loving agents. This view gives all the ends secured by "special providences," without any of that cause-and-effect absurdity already pointed out.⁷² That is, our spirit friends set on foot, or inspire us to, those *ways and means* which avert evil and secure good. If these views smack of modern Spiritualism, remember *they were published in 1842*, by the Author, and re-issued in 1844, years before the Rochester knockings, or any ideas of Spiritualism, now so called, existed. If there is plagiarism, it is on *that* side, not this; for what we here put forth but reiterates our *own* doctrines of 1842, of which "Fowler on Religion, Natural and Revealed," is an extant and *tangible* proof. Nor do we even stop to inquire who else adopts or opposes any of our own views, but only and always **WHAT IS TRUTH.**

PRAYER can obviously be answered in accord with this principle without interrupting, and by applying, causation, thus: our spirit friends, aware of our future needs, when we pray, that is, open our spiritual vision, and thus throw ourselves into this spiritual mood,

thereby direct us what to do, and what not, in order to avoid prospective evils and secure good. Their perceptions have been quickened by their death,²²⁶ so that they can forecast events—see when a collision is about to transpire, or any accident impends, or we are about to marry one incompatible, or marrying whom would make us miserable,⁴⁹³ etc., etc., *ad infinitum*, and make us shrink from them. Such guidings and providences *do exist*,²¹⁷ and this principle shows how they can be, and are, effected philosophically.

OUR UNSPIRITUAL STATE often prevents their impressing us clearly enough for us to heed their guidings. How many times, before any evil happens, are we faintly impressed not to do what caused it, but too feebly to act on it; whereas, if we had been in a spiritual mood, they would have been enabled to impress us sufficiently for us to avert it. Spirituality is well worth cultivation.

DREAMS AND VISIONS are but another mode of their conveying these warnings and guidings. Man's universal belief in them²¹⁴ proves that they have their Faculty and laws; and they transpire during sleep because we are then sufficiently passive to be impressed. Dreams caused by a foul stomach¹⁴³ should not be heeded; but inspired dreams, which all can contradistinguish, should be. The Author positively *knows* that he is often thus spiritually impressed, forewarned, and told truths of the last *personal* importance, one among hundreds thus: I dreamed of walking on a miry plain, beset with pitfalls, in a dark, misty, foggy night; meeting and asking one my way out; was pointed to a dim light, barely discernible; told to go to it, and walk *straight on beyond* till I saw another, and keep doing this till I reached the place sought. It meant *follow present light!*

SPIRIT FRIENDS, therefore, become most desirable and useful. Let us thank God for them, and make as many terrestrial friends as possible, on account of their usefulness, both here¹⁷⁸ and hereafter.

SPIRITUAL ENEMIES, of which Salem witchcraft is one phase, are of course equally possible, and proportionally detrimental. Death may kill a part or all of their malignity, yet may aggravate it; but we had better make as few of them as possible.¹⁷⁸ Such become "devils" *to us*, yet may be angels to others. Evil spirits thus become a part of Nature's economy, and serve a good end.

THAT SUBLIME PHILOSOPHY which underlies and ramifies throughout this entire range of spiritual truths deduced from this spiritualizing Faculty, commends them to all who have heads or hearts. Non-believers, you little realize how much you *lose* by ignoring them. Many like inferences crowd for expression, which space prevents.

XX. HOPE.

219.—ITS DEFINITION, LOCATION, DISCOVERY, ADAPTATION.

“Hope springs *eternal* in the human breast,
Man never *is*, but always TO BE blessed.”

THE EXPECTANT. Anticipation of future good ; buoyancy ; light-heartedness ; overrating prospective good, and underrating or overlooking evils and obstacles ; that which looks on the bright side, builds fairy castles, magnifies prospects, and speculates. Its reversed action is despair and melancholy.

IT IS LOCATED on the two sides of the forepart of Firmness, and back part of Worship, lapping over upon both, and between Conscience behind, and Spirituality in front. It is undoubtedly subdivided ; its upper portion hoping for spiritual and immortal enjoyments, and its lower, temporal. Its location by the side of Conscience is full of meaning, and avers that men naturally hope for, and will receive their deserts, or the *just recompense* of their conduct.

“Hope is necessary to the happiness of man in almost all situations ; and often gives more satisfaction than even success. Those who are everlastingly scheming or building castles in the air have it large. It believes possible whatever the other Faculties desire. It is not confined to this life, but inspires hopes of a future state, and belief in the immortality of the soul. When too strong it expects the improbable, unreasonable, and impossible ; but when too weak, with Caution large, it produces low spirits, melancholy, and despair.”—*Spurzheim*.

“This Faculty favors the exercise of faith, and disposes to belief in a happy life to come. May not the existence of a future state be inferred from this Faculty, as that of a God was from Worship ? may not its instinctive tendency to leave its present scene of enjoyments, and to expatiate even in imagination in the fields of an eternity hereafter, denote that man is formed for a more glorious destiny to come ? Phrenology shows that man's ardent hope, and longing after immortality results from two Faculties, Love of life, and Hope.”—*Combe*.

THE ADAPTATION of this Faculty is to periodicity, and some future time, as memory is to times past. But that we expected future events, we could never prepare for them. We all appoint future periods for worship, lectures, meetings, elections, business, and other transactions, because we *expect* those specified times to arrive. We should never sow our grain broadcast to-day unless we expected to get back a great

deal *more* hereafter; and the larger this organ the more largely we sow, in all its various sences. Without it we should never lift a finger to do anything but what gave us present enjoyment; whereas a large proportion of our enjoyments and efforts come from doing things onerous and expensive in the present, but from which we expect future pleasures. Please think out this problem—the necessity of providing future enjoyments by present labors; and the good we derive from investing, not in dollar speculations merely, nor even mainly, but in unnumbered labors and expenditures. But for it who would ever build a railroad, buy goods, or make any improvements whatever? How infinite the good it thus confers on man!

SPURZHEIM AND COMBE regard this Organ and Faculty as fully established; but Gall leaves this place unmarked. The former, however, ascribe gloom, low spirits and melancholy to its deficiency, whereas I ascribe them to morbid nerves and the *reversed* exercise of Hope. All the Faculties are capable of this reversal. That of Love causes the pinings of unrequited affection and bereavement, or else loathing of the other sex, of Caution panics, of Conscience compunctions, of Ambition shame, of Appetite loathing of food, etc.; and a like turning of Hope would naturally create despair. My observations convince me that when moodiness does not result from morbid physiological conditions, it comes from Hope reversed. I am led to this conclusion by this fact, that often persons with full Hope and an impulsive Temperament, are very hopeful one minute, but despairing the next, and easily thrown from either state into the other. Now if this despair resulted from deficient Hope it must be measurably constant. Its fickleness shows that it has other causes, and its often occurring with full Hope, but never without disordered nerves, points clearly to its reversal as the cause.

220.—DESCRIPTION, CULTIVATION, AND RESTRAINT OF HOPE.

LARGE.—Have unbounded expectations; build a world of castles in the air; live in the future; enjoy things in anticipation more than possession; contemplate with pleasure the bright features of life's picture; never despond; overrate prospective good, and underrate and overlook obstacles and evils; calculate on more than the nature of the case will warrant; expect, and hence attempt, a great deal, and are therefore always full of business; are sanguine, and rise above present trouble by hoping for better things in future, and though disappointed, hope on still, and live in the future more than present; with small

Continuity, have too many irons in the fire ; with an active Temperament added, take on more business than can be worked off properly ; are too much hurried to do things in season ; with large Acquisition, are grasping, and count chickens before they are hatched, and often two to the egg at that ; are always rushing on after great piles of money away ahead, without noticing the smaller sums near by ; with only average Caution, are always in hot water ; never stop to enjoy what is possessed in grasping after more, and would accomplish much more if less were undertaken, and in taking one step forward, often slip two steps back : with large Force, Firmness, and Causality, are enterprising, and never give up the ship, but struggle manfully through difficulties ; with large Ambition, and full Dignity added, feel adequate to difficulties, and grapple with them spiritedly ; think everything attempted must succeed, and with large Causality added, consider plans well-nigh perfect ; with large Acquisition, lay out money freely in view of future gains ; with large Ambition, hope for renown, honor, etc. ; with large Worship and Spirituality, hope to attain exalted moral excellence, and should check it by acting on only half it promises, and reasoning against it.

FULL.—Expect considerable, but undertake no more than can be accomplished ; are quite sanguine and enterprising, yet with Caution large, are always on the safe side ; with large Acquisition added, invest money freely, but always safely, and belong to the “ bears ; ” make good bargains, if any, and count all the cost, yet are not afraid of expenses where they will more than pay ; with larger animal organs than moral, hope more for this world's goods than for another's, but with larger moral than animal, for happiness in another state of being more than in this, etc.

AVERAGE.—Expect and attempt too little, rather than too much ; with large Caution, dwell more on difficulties than encouragements ; are contented with the present rather than lay up for the future ; with large Acquisition added, invest money very safely, if at all, and prefer to put it out securely on interest rather than risk it, except in a perfectly sure business ; will make money slowly, yet lose little ; and with large intellectual organs, in the long run acquire considerable wealth.

MODERATE.—With large Caution, make few promises ; but with large Conscience, scrupulously fulfil them, because promise only what can be performed ; with small Dignity, and large Worship, Conscience, and Caution, if a professed Christian, will have many fears about

future salvation ; with only average propensities, will lack energy, enterprise, and fortitude ; with large Firmness and Caution, are very slow to embark, yet once committed, rarely give up ; with large reasoning Faculties, may be sure of success, because see why and how it is to be brought about ; with large Acquisition, will hold on to whatever money is once acquired, or at least spend very cautiously, and only where it is sure to be returned with interest ; should cheer up, never despond, count favorable, but not unfavorable chances, keep up a lively, buoyant state of mind, and "hope on, hope ever."

SMALL.—Expect and undertake but little ; with large Caution, put off too long ; are always behind ; may embark in projects after every body else has succeeded, but will then be too late, and in general be just in season to be a little too late, and knock at the door just after it has been bolted ; procrastinate, and are forever in doubt ; with large Ambition and Caution, though most desirous of praise, have little hopes of obtaining it, and are therefore exceedingly backward in society, from fear of ridicule rather than hope for praise ; are easily discouraged ; see lions in the way ; lack enterprise ; magnify obstacles ; and expect and undertake next to nothing.

WE ARE RELATED to the past by memory, present by experience, and future by anticipation ; and also adapted to the future by what we do at any one time affecting us ever after. Nature thus spreads futurity before us, and bids us sow and reap. And the more provision we make for our future happiness, the more we may reasonably expect to enjoy. Hope spurs on to that effort which contributes to success. Those who expect but little attempt and accomplish little ; while sanguine anticipations enlarge all our plans, and redouble all our exertions. But for Hope, the heart would break, and the hands hang down. Without it, the intense yearnings of our nature would only torment us with ardent desires which we could never expect to see realized, and should, therefore, fail to attempt. But now this Faculty enables us to expect what the other Faculties desire, and this inspires us to do, and hence incalculably promotes efficiency and all our enjoyments.

DISCOURAGEMENT PALSIES, and constitutes no part of man's primitive constitution. We should "hope on, hope ever." When we fall, not supinely lie there, but bestir ourselves and search out some other "peg to hang our hopes upon." "Never give up the ship." If it storms to-day, to-morrow is the more likely to be fair. And when trouble lowers and difficulties thicken, the true man will outride the storm by remembering that "the darkest hour is just be-

fore day," and that his lot, compared with that of many others, is quite comfortable. Never indulge regret for what is irretrievable. Difficulties throng life's entire pathway, the very surmounting of which is pleasure to the resolute. Does pondering over misfortunes remove them? Does it not rather aggravate? Giving way to trouble paralyzes effort, blasts success, crushes the spirits, and blights the soul; how much, those only know who have given up to "hope deferred." Few things render us more wretched or paralytic. "Away with melancholy." "There is a better time coming." Despondency impairs appetite, diminishes respiration, circulation, motion, and all the physical functions, and enfeebles intellect; whereas expectation promotes every function of body and mind. Its due exercise redoubles all our pleasures by enabling us to enjoy them twice—in ANTICIPATION as well as fruition—and often confers far more pleasure in the former than the latter; but gloomy forebodings blight present pleasure as well as all the delights of expectation. The latter should therefore be unceremoniously dismissed, but the former encouraged. We have something to do in this world besides "crying over spilled milk." Pitiable, indeed, are those who despond. Why ever be dejected? If we cannot obtain that we wish, let us try to get what we can. The past is irretrievable, and unavailing regrets do not bring back what has already transpired. All that remains is to make the most of the present, with a wise reference to the future. A fellow-boarder, who had come to his meals bent almost double, looking as sad and discouraged as if he had been sentenced to the gallows, and moving as though twenty-five years had suddenly been fastened upon him, when asked "how heavy a loss have you sustained?" answered, "about \$1,500. Who told you?" "You tell all who see you, not by words, but by your sorrowful looks and decrepit movements. You were young a week ago, but look and act old now. What was our conversation a few days since about making the most of our pleasures and least of our troubles, and enjoying life as we went?" A few days afterward, he still appearing dejected, I inquired, "How much of that \$1,500 have you mourned back?" "None." "Then why continue to sigh? You could have made half as much more by this time, but instead, have made the less, besides having shortened your days by grief," which is true of every discouraged subject. Few things break the health and talents, or shorten life, equally with a sunken spirit.

A PROSPEROUS MAN helped his friends till he failed, when, shutting himself up, he abandoned himself to gloom and discouragement. Of

course, his family soon came to want, when a poor widow woman brought them three loaves of bread. The thought that this widow woman, besides supporting by her own industry herself and little son, should also earn bread for his hungry children, roused him to effort. He bestirred himself, found employment, and is now comfortable, and bids fair to recover his lost fortune. Words can hardly portray the influence of encouraged Hope on effort and all the other Faculties, and, of course, on success and happiness, or the paralyzing power of despondency. He is weak who yields to it, and the greater the misfortune, the greater the fortitude with which it should be met. Indeed, this magnanimous rising above trouble almost converts it into good-fortune, by those delightful feelings it inspires.

YET MUCH of the despondency, especially of the sedentary and invalid classes, is caused, like that of Payson, by disordered nerves. Let such remember that their evil forebodings are caused, not by unfavorable prospects, but by a state of nervous irritability.

TO CULTIVATE.—Expect more ; look always more on the bright side, the dark, none ; calculate all the chances for, none against you ; mingle in young and lively society ; banish care, and cultivate juvenility ; cheer up ; venture more in business ; cultivate trust in the future, and “look aloft !”

THOSE with Large Hope would look out upon the very same prospects differently, while you behold them through diminishing and dark-shaded glasses, and hence should make due allowance. Children’s skies are always bright. The instant one source of delight is cut off, they wholly forget it, with a “Never mind that ; this is better.” Take pattern, ye despondents, from them, and let this Faculty be stimulated in all.

TO RESTRAIN.—Offset excessive expectation by intellect ; say to yourself, “My hopes so far exceed realities that I shall not get half I expect,” and calculate accordingly ; do business on the *cash* principle, in both buying and selling, otherwise are in danger of buying more than can pay for, and indorsing too much ; build no castles in the air ; indulge no revellings of Hope ; shoulder only half the load you feel confident you can carry ; and balance your visionary anticipations by cool judgment. When too active, it renders its possessor visionary, chimerical, speculative, and liable to lose all by attempting more than can be accomplished. Such spread themselves too much. Their splendid prospects have no solid foundation, but are caused by the magnifying influence of Hope. Dock off half or two-thirds from

what you really expect to obtain, and be right glad to get that. Bear in mind that you constitutionally overrate every prospect, and under-rate every difficulty ; be contented with the present, because you think you could do so much better in something else ; never lose a certainty in grasping after an uncertainty ; go more slowly and surely ; try no experiments, enter on no schemes. In short, put intellect, prudence, and your restraining Faculties, over against Hope, and refrain from acting on its chimerical projects.

LET ALL guard against both its excess and deficiency. Thousands are slaves either to the one or the other. The former make the worst of their fate, and suffer in the mere apprehension of imaginary evils ; the latter suffer from wild extravagances like those of 1836, and thus cause the fall of others.

XXI. CONSCIENCE. "CONSCIENTIOUSNESS."

"Let justice be done, if the heavens fall."

"Thrice is he armed who hath his quarrel *just*."

221.—ITS DEFINITION, LOCATION, ADAPTATION AND OFFICE.

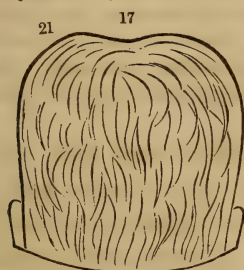
THE JURIST—Integrity ; scrupulousness ; incumbency ; moral principle ; rectitude of intention ; perception and love of right, truth and justice ; regard for duty, promises, and moral obligations ; approval of the right, and condemnation of the wrong ; sense of accountability ; obedience to laws, rules, etc. ; feeling of guilt ; penitence ; contrition ; remorse ; desire to reform ; forgiveness ; gratitude.

ITS LOCATION is on the two sides of the back part of Firmness, and at right angles to it ; between Ambition behind, and Hope in front, running down to Caution. Its upper portion has special reference to abstract justice, its lower to man's obligation to his fellows. It extends backward to precisely where the head begins to slope backward to form its posterior side.

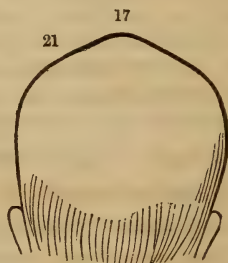
ITS ADAPTATION.—All human laws and governments of all kinds grow primarily out of this inherent sentiment of right. Of course, Order, Kindness, and in fact most of the other Faculties enter into their composition, but that inherent sense of eternal right conferred by this element is their mainspring and origin. "Law and order" need no encomiums, for they speak their own praise. Anarchy, in which all gratify their own passions, wholly irrespective of all the rights and interests of all others, or else government of some kind, is man's only alternative ; and all men always have chosen, will chose, government

—the regulation of each other somehow. Despotic or legal governments, arbitrary, irresponsible government by a sovereign monarch, or else republican, or one by executive officers who see to the execution of laws legally enacted, are man's only alternative. The two can no more be amalgamated than oil and water. All peoples must give up their kings or their constitution. As far as a king is merely an executive officer of a constitution, he is no king proper, but a mere hired servant of the people ; an obedient, not a commandant.

SPURZHEIM discovered and established this organ and Faculty, as well as Hope. He says it is generally larger in children than in adults, which all my observations confirm ; obviously in consequence of its becoming blunted and weakened by contact with mankind ; and most persons, on looking back, will find that they *are* less scrupulous than they once *were*.



152.—CONSCIENCE VERY LARGE, WITH FIRMNESS SMALL.



153.—FIRMNESS VERY LARGE, WITH CONSCIENCE DEFICIENT.

COMBE mentions several cases as occurring in his private employment of persons with weak Conscience, who proved dishonest, and adds :

“ After more than thirty years' experience of the world in actual life, and in various countries, I cannot remember an instance in which I have been permanently treated unjustly by one in whom this organ and intellect were large. Momentary injustice, through irritation or misrepresentation, may have been done ; but after correct information, and time to become cool, I have found such persons ever disposed to act on the dictates of Conscience ; as well as satisfied with justice. Nor have they ever maltreated me, though we differed greatly in opinion, but they represent my statements fairly, and meet them with honest arguments ; while my opponents who lack this organ have not scrupled to use falsehood, misquotation, and misrepresentation as weapons of attack. Those in whom it is powerful are disposed to regulate their conduct by the nicest sense of justice ; are earnest, upright, and direct in manner ; inspire confidence ; and convince us of their sincerity. It leads to punctuality in keeping appointments so as not to waste their time ; to the ready payment of debts ; will

not send collectors away unsatisfied except from inability to pay; are reserved in making promises, but punctual in keeping them; and when favorably combined, are consistent in conduct, and pleasing in manners. Its predominance makes a strict disciplinarian and a rigid but just master; invests all actions with a sense of duty; thereby sometimes rendering estimable persons disagreeable.

"One in whom it is small, when attached to a friend, is blind to all his imperfections, and extols him as immaculate; yet makes this model, if he offends, a monster of ingratitude and baseness. He passes in an instant from an angel to a demon. With love of praise large, he will adopt every means to please and flatter his friend; make his points; side with his extravagant hopes; pretend to love and hate as this friend does, irrespective of justice; lets his own predominant sentiments rule him for the time being; is kind and harsh by turns; admires when favorably, and condemns when unfavorably affected; is always unregulated by principle; not scrupulous, and rarely ever condemns his own conduct; may be amiable, but can never be relied on where justice is concerned; is a poor judge; exacts too much or too little; and as seller, misrepresents, adulterates, or overcharges; depreciates goods, or evades payment, etc. No sentiment is more incomprehensible to those in whom it is deficient. Madame de Stael, says Bonaparte could never comprehend men of principle. It is essential to a philosophical mind."

CONSCIENCE IS ADAPTED primarily to the natural laws, and those inherent first principles of right and duty they involve and create. These laws render whatever conforms to them right *per se*, and whatever differs from them inherently wrong. Human laws constitute all legal rights and wrongs, and Divine laws all Divine rights and wrongs. Whenever they clash, let Divine right overrule human. We have already demonstrated the natural-laws *principle* in which all right inheres,¹⁹⁻²⁴ and the violation of which creates all wrong, and need now only add that these laws are that entity in Nature to which this Faculty adapts man, and with which it puts man in relation. They govern all actions and feelings, which thereby necessarily become right or wrong; while Conscience creates the feeling of moral obligation—that we *ought* to obey, and ought not to violate them. All things *are* right or wrong, and this Faculty makes us *feel* that right is right and sacredly obligatory, and wrong wrong and inherently detestable. It is not our moral judge, but *sheriff*; does not say what *is* right or wrong, which is done by the other Faculties, but reins us up to their tribunal, and commends or condemns us according as we fulfil or violate. The law already applied to Worship by way of determining the true God²⁰⁷ applies here to determine inherent right.

THE INNATENESS of this element proves the existence of abstract

right *per se*, irrespective of motives and effects. Phrenology, in demonstrating its existence in man, proves, beyond all cavil and controversy, that great fundamental abstract *first principles* of inherent and absolute right and justice lie back in the original Nature of things, to which it is adapted. That identical argument by which we proved the divine existence from Worship,¹⁹⁹ proves the inherent rightness of all right, and wrongness of all wrong; and that all whom natural law governs are sacredly bound to live just as it requires in all respects. All moral obligation and duty emanate from it.

HUMAN ACCOUNTABILITY is equally demonstrated by the existence of this element. Phrenology is unjustly accused of tending to fatalism, by showing that man's vicious proclivities are connected with fixed cerebral conditions which sinners cannot help—that if a man has the “*bump*” of lying, lie he must, and is not to blame, because he was *born* thus; but if he has that of honesty, he is rendered mechanically honest by this same element, and therefore deserves no credit. Phrenology establishes Human accountability thus :

1. AN INNATE ELEMENT of morality and conscience is created in every human mind, and forms a constituent part of it. 2. This moral element *renders* its possessor a moral and accountable being, and arraigns all he says, does, and is, before this tribunal for condemnation or acquittal. Therefore, as the strongest possible proof that a man is a seeing being consists in his having been *created* with a seeing *element*, and an organism to use it; that he is a walking being is his having a walking *organism* and instinct; so the existence in man of this conscientious *ensor*, both constitutes and proves him a morally, accountable being, both meriting rewards and deserving punishments, and also conclusively *proves* that he is such by *Nature*, not education. No proof can be stronger; for it is demonstration in its fullest sense; is proved by *sight* and touch. This *ad hominem* evidence is positive and absolute, for it enables us to *see* and feel that this organ and Faculty exist. How utterly unjust then to condemn Phrenology as favoring materialism. Besides, the

CHARACTER CONTROLS THE *organism*, not the organism the character. Men steal, lie, revel, etc., because they have these innate vicious *proclivities*, but do not have these proclivities because they have this organism. The organs are mere *effects* of these mental attributes. Any error lies in their mental *structure*, not “*bumps*.” We proved the *principle* which establishes this conclusion in⁵⁰, and also virtually in¹⁸.

"THE THING OBJECTED to, however, remains. Your explanation relieves Phrenology from this charge, but does not meet the hard *fact* that some are 'as prone to do evil as the sparks are to fly upwards.' And nearly all have 'easily besetting sins' and temptations well nigh resistless. Are such moral delinquents excusable on the ground of their having these inborn propensities?"

ORIGINAL SIN, total depravity, and that whole class of subjects are thus distinctly ushered into our "ring" of discussion. Phrenology would be seriously at fault if it did not adjudicate this point satisfactorily, and from first principles. We need hardly remind scanning readers that the entire range of doctrines of Salvation by Christ, faith, penitence, pardon, etc., are arraigned by the inquiry just propounded. We answer:—

1. SIN EXISTS. Its amount no pen can describe, no finite mind admeasure, and we will not attempt. Former passages have described now one, then another of its phases,^{163 167 444} yet all are but as a drop in this deep well of sin. Of course it has its definition, which we have also given—violation of divine law. We have also pointed out some of its chief causes, which are clearly within human reach and obviation.²³

2. ALL SINFUL PROCLIVITIES ARE ARTIFICIAL not natural, incidental not constitutional, and superficial not inherent. By Nature, man is infinite perfection, infinitely perfected. All must accord perfection to Nature as one great whole, far beyond the utmost powers of finite man to perceive; and humanity is by far its highest aspect. Behold his infinite physical perfection! Yet how infinitely more perfect is his mentality! Shall all this physical perfection be preordained for a totally depraved *spirit* principle! All this, but the setting of not a diamond, but a mass of filth, rotten with "total depravity?" No! Messrs. Calvin & Co. And your total depravity doctrine was *interpolated* 400 years after Christ's death by the Fathers. A casket thus perfect was made for a jewel immeasurably more so. This proposition proves itself, and disproves innate total depravity. Let facts attest.

YOUR SWEETHEART LOVER was once perfection personified in your eyes; so much so that you wondered how even God could have made a mortal thus perfect! And yet, so far from overrating him or her, you scarcely began to realize their inherent excellences.

BEHOLD THAT INNOCENT CHILD! How inexpressibly sweet and lovely! With what touching devotion and melting tenderness do its fond parents dote upon and love it! Yet their love is not undue. The little angel is as *lovable* as it is loved. They could not possibly

love it beyond its intrinsic excellence, nor a tithe as much as it deserves. And it is constitutionally *adapted* to grow better, more pure and heavenly, with age.²¹⁶ Those who entertain this pious absurdity of its innate total depravity should revise it. Original human nature, so far from being originally depraved, is as infinitely pure and perfect as even God Himself knew how to make it. But the artificialities and surroundings of society, bad examples,²³⁴ and persuasions to drink, swear, and gamble by associates;¹²⁶ this universal scrambling after money, place, and social position; wrong education and surroundings, and like continuous and perverting causes by thousands, distort, pervert, and abnormalize the action of our naturally good Faculties. Yet Phrenology most emphatically declares that every single mental Faculty and physical function, exercised in accord with its primitive constitution, is absolutely perfect, and that all this acknowledged flood of human depravity is due wholly to their *perversion*; nearly or quite all the causes of which man can obviate, and thereby its resultant depravity. Thus a right love is possible to all, and would obviate all forms and degrees of sexual depravities; and thus of the depraved action of every other Faculty.

3. CHARACTER IS HEREDITARY throughout all forms of life, and in all its minutest aspects. This doctrine "Sexual Science" completely demonstrates, and all-seeing eyes see this each-after-its-own-kind *law and fact*, which diseases also illustrate. Not that they themselves are hereditary, but that those conditions which induce them often are.³¹⁶⁻³²² The wisdom and justice of this transmitting ordinance we will neither arraign nor justify, but only state. But for it human children would be as likely to be brutes or trees as they are now sure to be bone and flesh of their parents. No mother would long love or tend a monster offspring, but would throttle it as soon as she could clutch its throat, and miscegeneration would appertain to all forms of life. "Like parents like progeny" must be and is a law. But Nature could not hand down the good in parents without also handing down their bad, any more than a photograph could render a beautiful face having a mole on it without likewise taking the mole. All parental qualities, good, bad, and indifferent, *are* transmitted, and yet "Sexual Science" shows parents how to produce children having fewer faults and more virtues than themselves—an art, a secret all parents are sacredly bound to learn and practise. These thievish propensities then are *transmitted*.¹⁶³ Now they constitute depravity. Therefore, depraved tendencies are transmitted, along with talents and virtue.

THESE INHERITED depravities Phrenology recognizes. *This* kind of original sin it accounts for. Naturally excellent parents by millions, through various physiological errors, become extremely nervous, and transmit their own fiery, explosive, nervous state to their child, who is thereby rendered a real little spitfire, a young satan, an actual imp, a little devil. Now is *he* to blame for being what his parents *compelled* him to be? The total depravity is his, yet its guilt is parental. But as to any inherent Adamistic taint which poisons, debases, depraves, corrupts, and demoralizes all his descendants forever, Phrenology knows nothing. Go somewhere else for it.

4. PHYSICAL CONDITIONS produce moral maladies. This we have proved.³⁰ This origin of total depravity Phrenology also recognizes and enforces. Yet it is measurably under human control, as is the preceding.

5. NO FACULTY IS BAD, but all are inherently good and necessary. Sin lies in *perverting* the Faculties from their normal to their illegitimate use. No matter how large Acquisition and Cunning may be in any one, he need not, therefore, take what is not his, nor lie; and will not, from their size alone. All, rightly exercised, are only good.

6. ALL FACULTIES CAN BE CULTIVATED and restrained.⁶¹⁻⁶⁴ This cultivative *fact* throws any guilt off upon the individual. All can modify their characters for the better, and grow better and better every day of life. Any even poorly constituted child, well brought up, who, arriving at years of discretion, will assiduously cultivate the good in him, and avoid all moral temptations and wrong physical habits, will grow better and still better forever,²²³ and be able to lead a life a good deal better than none.

7. NATURE PREVENTS what she cannot render passably good. Those too strongly tinctured with disease to impart a fair share of both physical stamina and moral excellence to offspring, sufficient with culture to enable children to lead passably healthy and moral lives, so as to be a great deal better than none, Nature will not permit to reproduce.⁵¹² She will *forestall* whatever is not a good deal better than nothing.

8. "THE MORE TEMPTATION, the more guilt." Only those are tempted who are in a sinful, and therefore temptable *state*. Two men see the same chance to steal; it tempts neither, if both are perfectly honest at heart, tempts only the one *predisposed* to steal, and him only in *proportion* to his thievish proclivity. Christ was not tempted

of Satan, because He was in a state too holy to *be* tempted. Those only are tempted who are enticed by their own interior *lusts*. All temptations come from *within*, not without. This thought constituted the Author's graduating thesis at his college "Commencement," forty years ago. So much for original sin, and how to obviate it.

"WHY IS RIGHT RIGHT, and wrong wrong? What is the constitutional *element* of each? What *makes* sin sinful, and holiness holy? You have answered 'because it conforms to or violates natural law.' But *why* is this obedience right?"

BECAUSE OBEYING LAW MAKES HAPPY, and violating it, miserable. All Nature is constructed on this benevolent principle.¹⁵ Whatever fulfils it, is therefore right, but that wrong which breaks it. This principle, demonstrated elsewhere, yet applicable here, underlies and constitutes the very quintessence of all inherent right and wrong. *Consequences* create morals. Yet it so is that only good consequences flow from obeying law, and always bad from its violation. All right and wrong are framed and dovetailed in with this happyfying foundation timber of man and the universe. This is the *rationale* of all right and wrong, goodness and badness, virtue and vice. Thus it is right that we exercise Kindness, because we thereby make ourselves and others happy; right that we eat right, because right eating makes us and others happy, etc. Many argue that God's fiat makes right. No; it inheres in the construction of the universe, and is based in that *higher* law of *love* which governs God himself, and all His creatures. It is right that we worship God, not because we thereby benefit Him, nor injure Him if we do not, but because right worship blesses the *worshipper*, by making us like Him. The Almighty is too high to be elated by our praise, or provoked by our neglect of Him. Swearing is wrong, because it makes swearers and hearers unhappy. This is not Deism, which ignores all inherent right and wrong. Let us all seek happiness in doing right, and avoid the misery incident to doing wrong!

WHAT IS RIGHT, and what wrong, is our next question in order, and almost immeasurably important; yet answered fully by this short, simple principle of Phrenology. Whatever harmonizes with all the phrenological Faculties, is therefore right; but whatever conflicts with any is wrong. Bringing any and all actions, feelings, expressions, everything to this moral tribunal attests their good or evil nature instantly and infallibly. All these Faculties are just right, and a part of that great law which constitutes right, and by converse, wrong.

Thus whatever conflicts with the natural function of Parental Love, by injuring children, is therefore *ipso facto* wrong; whatever outrages Acquisition by taking or keeping from others anything valuable which justly belongs to them wrongs them, and makes you and them unhappy; so "*pay what thou owest.*" All blaming, scolding, fault-finding, false accusations, slanderings, aspersions, maligning of motives, and misrepresenting of the actions and purposes of others, is wrong *per se*, and makes all concerned miserable. Character is as sacred as dollars, and should not be aspersed. Reproving servants soon hardens them, and engenders that hatred which reacts, and injures the blamer. Every species of detraction is wrong. So is all antagonism, except that demanded by the legitimate action of some Faculty, and then its non-exercise is wrong. Taking life is as wicked as life is valuable, unless when the life of others demands it. A western desperado who takes his own life into his hands and proclaims himself a standing menace to the lives of others, thereby makes himself an out-law, and forfeits all legal protection; as do also those who levy war against their country, and resist its laws. Those who voluntarily renounce and defy all law, thereby forfeit all legal rights under it. Yet exercising Destruction in killing out-laws is as much a duty as killing mad dogs. A friend has more claim upon our aid than a stranger; yet all in *real* need have a just claim upon our benevolence. That is, we are under sacred obligations to exercise Kindness when distress demands.²²⁸ To violate good taste in dress, behavior, speech, etc., is wrong because it outrages Beauty, the exercise of which its existence renders our duty. We are under sacred obligations to ourselves to guard our own lives and interests, that is, to exercise our selfish propensities; yet have no right to trespass on the rights, and legitimate enjoyments of others. The existence of the family affections in all puts all under sacred obligation to exercise them in loving and providing for a family, and surrounding themselves with its associations and restraints. Nature by endowing all with love, puts all under solemn bonds to love; and only one, because one love is its normal function.⁴¹⁸⁻⁴²⁴ Inhabitiveness in all, commands all to have their own home to love, and punishes those who do not. Nature, by giving us intellectual powers, requires us to exercise them all, and in accordance with their laws of action, that is, in supremacy.²³⁸ But these samples should enable all intelligent readers to comprehend that *great moral code* involved in the *principle* here stated, that all right consists in the normal exercise of all our Faculties, and all wrong in their abnormal

and excessive action. No Faculty, rightly exercised, collides with the right action of any other ; and all when exercised aright render us as absolutely perfect in conduct as we are in primitive constitution, which is just as perfect as God could make us. The idea that we are *created* inherently depraved is erroneous. All depravities have other origins.

222.—DESCRIPTION, CULTIVATION, AND RESTRAINT OF CONSCIENCE.

LARGE.—Place moral excellence at the head of all excellence ; make duty everything ; are governed by the highest order of moral principle ; would on no account knowingly do wrong ; are scrupulously exact in all matters of right ; perfectly honest in motive ; always condemning self and repenting, and very forgiving to those who evince penitence, but inexorable without ; love the right as right, and hate the wrong because wrong ; are honest, faithful, upright in motive, and mean well ; consult duty before expediency ; feel guilty when conscious of having done wrong ; ask forgiveness for the past, and try to do better in future ; with Force large, evince the utmost indignation at the wrong, and pursue the right with great energy ; are censorious ; make too little allowance for the faults and follies of mankind ; are too liable to denounce evil-doers, and show extraordinary moral courage and fortitude ; with large Friendship, cannot tolerate the least thing wrong in friends, and are apt to reprove them ; with large Parental Love, exact too much from children, and with large Force, are too liable to blame them ; with large Caution, are often afraid to do, for fear of doing wrong ; with large Worship, reasoning Faculties, and Expression, are naturally theological, and take the highest pleasure in reasoning and conversing upon all things having a moral and religious bearing ; with Worship average, and Kindness large, cannot well help being a thorough-going reformer, etc. ; with strong propensities, will sometimes do wrong, but be exceedingly sorry therefor ; and, with a wrong education added, are liable to think right wrong, because it warps Conscience, yet mean well ; with large Caution, are solicitous to know what is right, and careful to do it ; with weaker Caution, sometimes do wrong carelessly or indifferently, yet afterward repent it ; with large Caution and Destruction, are severe on wrong-doers, and unrelenting until they evince penitence, but then cordially forgive ; with large Ambition, keep moral character pure and spotless, value others on their morals more than wealth, birth, etc., and make the word the

bond; with large Kindness, Force, and Destruction, feel great indignation and severity against oppressors, and those who cause others to suffer by wronging them; with large Beauty, have strong aspirations after moral purity and excellence; with large reasoning organs, take great pleasure, and show much talent in reasoning upon and investigating moral subjects, etc. Very large Conscience, with large organic quality, and Force, along with disordered nerves or dyspepsia, makes one of the most unpleasant of characters—querulous; eternally grumbling about nothing; magnifying everybody's faults, thus making mischief among neighbors; perpetually accusing everybody, and chiding children for mere trifles; too rigid in matters of reform, and violent in denouncing opponents, of whom rabid radicals, punctilious religionists, and old maids furnish examples.

FULL.—Have good conscientious feelings, and correct general intentions, yet are not quite as correct in action as motives; mean well, yet with large Force, Destruction, Love, etc., may sometimes yield to these Faculties, especially if the system is somewhat inflamed; with large Acquisition, make very close bargains, and will take such advantages as are common in business, yet never intentionally wrong others out of their just dues, still, have more regard for money than justice; with large intellectual organs, love to reason upon subjects where right and duty are involved, yet expediency has undue, and right too little weight; and should never allow conscience to be in any way weakened.

AVERAGE.—When not tempted by stronger Faculties, will do what is about right; generally justify self, and do not feel particularly indignant at the wrong, nor commendatory of the right; with large Ambition and Dignity, may do the honorable thing, yet where honor and right clash, will follow honor; with only average Force and Destruction, allow many wrong things to pass unrebuked, and even unresented, and show no great moral indignation or force; with moderate or small Secretion and Acquisition, and large Ambition, Kindness, and Beauty, will do as nearly right, and commit as few errors as those with Secretion, Acquisition and Conscience all large, and may be trusted, especially on honor, yet will rarely feel guilty, and should never be blamed, because Ambition will be mortified before Conscience is convicted; with large propensities, especially Secretion and Acquisition, and only full Kindness, are selfish; should be dealt with cautiously, and thoroughly bound in writing, because liable to be slippery, tricky, etc.

MODERATE.—Have some regard for duty in feeling, but less in practice; justify self; are neither very penitent nor forgiving; even temporize with principle, and sometimes let interest rule duty; and should cultivate this Faculty by never allowing the propensities to overcome it, and by always considering things in their moral aspect.

SMALL.—Have few conscientious scruples, and little penitence, gratitude, or regard for moral principle, justice, duty, etc., and are governed mainly by the larger Faculties; with large propensities, and only average Worship and Spirituality, evince a marked deficiency of moral principle; with moderate Secretion and Acquisition, and only full Destruction and Force, and large Friendship, Ambition, Kindness, Beauty, and intellect, and a fine Temperament, may live a tolerably blameless life, yet, on close scrutiny, will lack the moral in feeling, but may be safely trusted, because true to promises. That is, Conscience having less to contend with, its deficiency is less observable. Such should most earnestly cultivate it.

TO CULTIVATE.—Always ask yourself what is right and wrong, and adhere closely to the former, yet studiously avoid the latter; make everything a matter of principle; do just as nearly right as you know how in everything, and never allow Conscience to be borne down by any of the other Faculties, but keep it supreme; maintain the right everywhere and for everybody; cultivate a high sense of duty and obligation, and try to reform every error; in short, “let justice be done, though the heavens fall.”

TO RESTRAIN.—Remember that you are too exact and exacting in everything; that you often think you see faults where there are none; that you carry duty and right to a needless extreme, and so far as to make it wrong; that you are too condemnatory, and need to cultivate a lenient, forbearing, forgiving spirit; that you trouble yourself unduly about the wrong-doing of others; that you often accuse people of meaning worse than they really intend, and look at minor faults as mountains of wrong; are too censorious; too apt to throw away the gold on account of dross, to discard the greater good on account of lesser attendant evils; too liable to feel guilty and unworthy, as if unfit to live, and too conscience-stricken.

THE CULTIVATION of this most exalted and important Faculty becomes a paramount means of self-improvement, happiness, and success in life. Right *exists*: therefore all should conform to it. All are created with an internal conscientious monitor to perceive it;

which all are solemnly bound to consult and heed. This element is impérative, and clothed with authority. All feel that right *is* right, and to be done, and sovereign, and wrong outrageous, and to be spurned. All our thoughts, words, deeds, and feelings, every breath we draw, and movement we make, all our desires and objects, from birth to death, aye, *forever*, are right if they conform to, wrong if they violate, the natural laws, and therefore both rewardable and punishable, and rewarded and punished.¹⁹ The sweep and minuteness of this principle almost infinitely exceed all theological definitions, yet are true.

CONSCIENCE AS AN AID has no equal. "*Thrice* is he armed who hath his quarrel *just*;" whilst a condemning Conscience "makes cowards of us all," and fools besides. How crestfallen and feeble are all rendered by consciousness of guilt, while "the righteous are as bold as a lion." Conscience is the queen bee and premier of the human soul. Every other Faculty is only a subject or adviser, while this is sovereign and its edicts are supreme, its sentences are final. Even though small and stifled, it can hold far larger propensities in check; nor can they rebel against its authority without coaxing it into participancy. Clean hands and an approving conscience are even to intellect what steam is to machinery—its prime mover. All always need its aid. How feeble that speaker who pleads on the wrong side? How much more glowing is Friendship and Love, in loving the moral than the immoral? and thus of all the others.

RIGHT GUARANTEES SUCCESS.—Always moral causes and persons triumph, while wrong go under every time. No good cause was ever yet lost, no bad one ever gained. If injustice and wrong triumph to-day, they eventually meet some sudden catastrophe, the more awful the greater their wrong doing. *Vide*, the New York and Erie rings, and all other rings, for that matter. This great natural truth has passed into these proverbs: "What is got over the devil's back will be lost under his belly;" "Falsehood outstrips truth at first, but truth overtakes her at last;" "Time rights all wrongs;" "Honesty is the best policy," etc. Those who are wronged have only to await the revenges of time. All evil-doers punish themselves. This is but a part of that great natural arrangement by which all laws obeyed reward, and violated, punish, themselves. All wrong contains within itself the seeds of self-destruction, and all right, those of self-perpetuity and reproduction.²³

THE SUCCESS OF THIS BOOK does not concern its Author, but only to have it *right*, for that *guarantees* its popularity. Right will finally

triumph; and the longer any truth takes to establish itself, the longer it lasts, and the greater its power. In proportion as it proclaims moral and religious *truth*, it *must* prosper. *Magna est veritas, et prevalebit*. All truth is mighty and must prevail, but *religious* truth is the mightiest truth, and must triumph the most signally.

ALL WRONG REACTS ON ITS AUTHOR.—All injured may justly pity their injurer. Let all who inflict injury tremble. A million times better *suffer* wrong than do wrong.

ALL EVILS exterminate themselves. Wrong is inherently suicidal. That which makes it an evil destroys it. All wrongs embody the seeds of their own extirpation. Men need not fight them, or try to obviate them. They will soon extirpate themselves. Slavery, a monster evil, destroyed itself by its *own* hands. All evil must die, or rather, be converted into good. Let the ark of right alone. It needs no steadying. It steadies itself.

SEEK ITS AID by doing right, but shun its antagonism, all ye who would prosper. Inquire touching everything, "is this right?" and utterly refuse all participation in any and everything wrong, and square all actions and feelings by the touchstone of eternal right. None can realize what joy inexpressible follows, nor what anguish results from wrong doing. Why stifle this heavenly monitor? Shall we sear its delicate susceptibilities by rebellion; and trample into the mire of depravity this premier of God, this our rightful sovereign, this most sacred emotion? Wrong-doers sin against Infinite Justice, and the moral constitution of the universe! Wrong is then no trifle, but most perilous. Nothing palsies and humbles as does a sin-stained Conscience. O, keep this soul-jewel unstained! Yet, how few obey, how many ignore, or shamelessly violate its requirements by justifying or practising deception, knavery, licentiousness, etc., on grounds of expediency! Hear cheating merchants proclaim their own shame by averring that "an honest business man would starve," and young libertines justifying sensuality on the score of health! As though heaven's laws conflicted, and God rewarded wrong! No business error is more common or fatal, than that rigid integrity is incompatible with business prosperity, whereas it is its very life and backer. Yet even if they did conflict, must conscience succumb to dollars? Make it king, and propensity subject. Let justice reign, though heaven falls: rather starve than live on the wages of sin. Gambling gains curse always, bless never; and daughters of sin suffer the more, the more they transgress the laws of virtue; and this is equally true

of their paramours. This is a natural self-acting ordinance which rules all in time, all in eternity. Wickedness clothes men in rags, while righteousness clothes and feeds its doers. God *will not let* those suffer long who obey His laws, nor those enjoy long who violate them. The mere consciousness of having done right is more than meat and drink, and infinitely preferable to all "the gains of wrong;" while the goadings of a guilty conscience are a fire in the bones. Let nothing ever be allowed to dethrone rectitude.

CHOOSE AN HONEST BUSINESS, young man. Ask not, "is it lucrative," or "respectable," or "easy," or even "lawful," but is it a *just* one? and if it is not, shrink from it, be its prospective emoluments what they may. Seek first *righteousness*, and all else it will superadd to itself; while injustice will work out failure. You barter right at your peril. You may get your "thirty pieces of silver," but they will be the price of moral *blood*, and sooner or later hurl you to destruction. Nor prosecute even an honest business dishonestly.

LET ALL place enlightened conscience on the throne, and implicitly fulfil all its requirements, from the greatest even unto the least; and do their whole duty toward man, and especially toward God, by fulfilling His laws.

YOUNG POLITICAL ASPIRANT, choose the right side in politics, if only as a means of final success, and if any new issue comes up, scan its inherent *right*, and cast your lot on that side. Let facts like these be your warning. Webster would have reached the presidential goal of his life if he had clung to the right, but lost it by espousing the wrong. If, in his seventh of March speech he had planted himself squarely on the side of right, he would have gained the Baltimore presidential nomination by acclamation, and been triumphantly elected. He wrote out two speeches, one favoring the side of inherent right, the other pandering to a popular wrong, in order to get the Southern vote, which his Hayn's speech had forfeited, and asked a friend which he had better deliver; and delivered the *wrong one*, which alienated the North, threw him overboard at Baltimore, lost him his presidential life idol, and *stung him to death!* whereas Lincoln's popularity rested on his *integrity*, not his talents. All political parties, in order to live, must do right; for sooner or later, wrong will overthrow them. Great men often fall in public estimation, because they do wrong, never from right doing.

HONESTY, ALL honesty, and nothing *but* the most uncompromising integrity is policy in all things, and the talisman of universal success.

CONSCIENCE IS BLUNTED by whatever pains it—by *being* imposed upon, as well as doing unjustly. Dwelling upon wrongs done us, makes us feel that, since others are so wicked, we may as well be like them. Many a one has been case-hardened and rendered dishonest by being abused. Hence, when wronged, we should not dwell upon our grievances, but turn our minds to other subjects. This advice is one of great practical importance.

THOSE HAVING SMALL CONSCIENCE, should remember that, therefore, they are comparatively blind to their faults; that they generally carry the bag containing their errors behind them, rarely see them, and when they do, are apt to smooth them over by forming flimsy excuses, and justify themselves unduly; that they are self-righteous, and hence more guilty than they suppose, because Dignity parries the feeble thrusts of Conscience, and throws the mantle of extenuating circumstances over much which should occasion self-condemnation; that not *feeling* guilty is no sign of honesty; because, other things being equal, the smaller this Faculty the feebler its compunctions, yet the greater the occasion for them. If it were larger, you would feel greater guilt for the same sins, and often relent where you now justify yourself. Be more penitent, and less self-righteous. Recollections like these will enable you in some measure to obviate this blemish. In short, the greater its deficiency the more habitual should be its exercise.

IN CHILDREN this Faculty should be assiduously nurtured. It is large in them all, and many times larger than in adults.⁶⁴ This is an awful, an astounding fact! It shows that Nature *bestows* enough on all, to render all scrupulously honest, yet it is buried by wholesale in the napkin of public and private injustice. No other solution of this sad fact remains. Children see others do wrong, and are often themselves wrongly scolded or punished, which sears and gradually wears down this heavenly gift and monitor. It must be nurtured, by calling frequent attention to the right and wrong of this action, and never abused by false accusations. Showing them the right, compels them to do it. Mothers should check their wrong doings, deceptions, and trespasses upon each other's rights, etc., and scourge them with their own Conscience, besides calling their attention to the exquisite pleasure they feel in having done right, and pains of a guilty Conscience. No other moral rectifier, except its sister Worship, at all compares with this. It is their moral panacea. Nor merely never wrong them, but in all cases of difference, see that you have *their* Conscience on *your* side, and *against* theirs, or you harden it.

223.—PUNISHMENT HERE, AND HEREAFTER.

RETribUTION EXISTS, and adds at least half to the efficacy and value of all forms of law. The value of natural and artificial laws has been shown.¹⁹ But they would be powerless and useless without rewards or punishments; and lose half their value, and all criminal laws all their efficacy, unless accompanied by punishments. Laws against stealing, lying, etc., would not be worth their recording paper, would be only recommendations, but for their penalties. Men understand this by always affixing specific punishments to the infraction of all laws, of which all fines, imprisonments, and executions furnish examples; while all natural laws have each their own specific kinds and amounts of suffering as their sure penalty.²³ Here, then, is a natural fact, and inherent arrangement in Nature. Of course man must have an inherent sentiment adapted to it. Conscience is that sentiment. It appends a feeling of guilt to all consciousness of wrong. Children in whom it is large often come and ask to be punished when they have done wrong, and will not be denied. *Being* wronged awakens Conscience in aversion, which calls up Destruction to avenge it, as an indispensable means of obviating it. Punishment thus becomes inherent, and Conscience its sentencing judge.

IS PUNISHMENT VINDICTIVE or preventive? Is it vengeance for past legal offences, or preventive of future? Asking this question answers it. Preventive, always and only; revengeful never, any. All the Divine attributes answer, "reformatory only"—for the best good of the sinner, not satiating Divine spite or spleen. In a theological aspect, this point is immeasurably important, but seems to us too self-apparent to require any more than merely stating; for all its facts, its very rationale, prove that at least punishments of the natural laws are not to gratify Divine malignity, nor for God's own glory, but for the reformation of the punished, and preventive of future transgressions. On this rock we base this theory of moral ethics, that—

ALL PAIN IS BENEFICIAL; "partial EVIL is universal good;" all PUNISHMENT is REFORMATORY; all SUFFERING BLESSES. It must, unless it is revenge. *Which* is it? We have applied this principle to all physical suffering, by showing that it subserves these two necessary ends—preventing future transgressions, *and actually healing*, and restorative besides!²³ All canvassing for that doctrine will only confirm it. Of course that same nature of things applies equally to all mental and moral punishments. Since all physical pain is only

beneficial, of course all mental must of necessity be equally so. Why not? Do we see any *other* proof of Divine malignity? that God delights to torture because He can? loves to see His creatures writhing in agony? Our article on His infinite benevolence settles that point.²⁰⁷ No, He makes us suffer *only* for our *own* good, not His savage delight in inflicting and witnessing our agony. Most apparent is the application of this principle to—

UNIVERSAL SALVATION AND ETERNAL DAMNATION, both of which it adjudicates scientifically and absolutely. It asserts future punishments as both a fixed fact, and an indispensable means of good to all sufferers. Why should not suffering form as much an integral part of that life as this? We shall retain all our Faculties there;²¹⁶ and of course love of liberty and “volition.”¹⁸⁹ This involves power to sin, and this punishment therefore. That life would not be worth having unless it conferred this power to do something as we may please. That power inheres in the structure of mind itself, and must be respected and enjoyed there. This implies the possibility of our sinning there as well as here, and this the certainty of punishments for future sins.

PUNISHMENT THERE FOR SINS HERE perpetrated, is also a necessity. We shall be the same identical *beings* there we are here.²¹⁷ That life will not be another life, but only a prolongation of this. Our consciousness will enable us to remain there as here. Our memory there of whatever transpires here is to be perfect, extending to all we ever knew and did here. Our loves here are to be the same in substance as they are there, and for the same individual objects. The office of Parental Love is the love of our *own* children, therefore it will love our own children there, and therefore *know* and identify them as our own veritable lineal offspring. Constancy loves only one, and that one all through this life, and of course into and throughout the life to come. So, lovers, be careful *whom* you *begin* to love here. All else about us is of course governed by this identical law of *transfer* from this life over to that. Who will controvert this basis of our argument? Of course all the *effects* of all our actions in this life must needs go along with us “over Jordan,” and affect us for good or bad there, just as here. That life will be to this what antenatal life is to postnatal; what boyhood is to manhood; and life’s meridian to its decline; all parts of all preceding states affecting all parts of all subsequent ones. As all maternal troubles, sickness, exhaustion, starvation, health, happiness, etc., before a given child is born, correspondingly

affect it throughout its after life ; as all a boy's good deeds and bad affect him well or ill ever after ; as all a young man's drunken spree, or injuries of health, and goodness, badness, etc., carry their respective effects along with him all through his manhood and dotage ; so all the good and bad deeds of this life are translated with us to the shores of eternity. If this is not so, virtual annihilation—the practical destruction of our self-hood and personal identity—must needs ensue. If we ourselves here are to be ourselves there at all, we must needs be our *whole* selves there the same as here, which presupposes the attachment to us there of all the *effects*, good, bad, and indifferent, of “all the deeds done in the body.” This result is a necessity. This is still farther proved by—

THE CONSTITUENT ELEMENTS of personality. In what does your yoneness inhere? In your Faculties,³⁴⁻³⁷ and their outworkings. What enters into and constitutes your embodied self this moment? Your mental Faculties, and all you have done with them since you knew anything. What will you be at your next birthday? All you are now, with what you do, think, feel, and are between now and then superadded! What will you be at death? The embodied summary of all your life elements and their action all through life! What will you be when you awake to consciousness after your death-sleep? (And its resemblance to sleep is apparent.) Precisely what and *all* that you were when you lay down in death. And throughout all the stages of eternity, thousands and millions of years hence, at each stage you will be the summed up *quotient* of all the previous outworkings of your Faculties, themselves included.

ALL ACTIONS HAVE ETERNAL RESULTS. As if at twenty, you ate madder, it entered into and discolored your very bones, and *remains* in them till and after you die, till they decompose, and then in their very dust, inseparable from them ; or if burnt, from their very smoke and ashes ; so of all good and bad acts. Thus, if at twenty you cut your flesh and it healed, but left a scar which grows with age ; so if at twenty you had a drunken spree, it entered into your very selfhood, forms a part of you, can never be eradicated, no matter how good ever after, and leaves its scar, its legitimate effects, its image upon your soul-disk forever. Trying to forget it only obliges you to remember it. We shall yet prove that memory is fact-tight ; that it loses nothing,²⁵⁹ and have already proved that this element goes on with us, and of course will *compel* us to remember all the scenes of this life, all good deeds, all bad, all indifferent ones. Thus it is that

memory both *keeps* the "judgment" books correctly, by recording all we give it to record, and keeps them *open* besides, as on a spread canvass. Be careful, O ye who live, what you give it to record. God makes you your *own* bookkeeper and historian, and allows no mistakes. As a murderer always starts at every little thing because his memory of the fatal deed, the awful look and death struggles of his victim, become a terrific and ever present consciousness with him; so of all else, all we ever do, say, and are. We should pause if the consequences of our acts ended with this life; but since we are to be the subjects, perhaps victims, of their *eternal* consequences, we *may* pause and tremblingly inquire, "How shall we guide our steps in view of such momentous eventualities?"—a question we shall yet answer.

A NAKED YOUTH, shown garments of various qualities and patterns, told to choose one for wear, finds in it pockets, large and small; is shown all kinds of seeds, some bearing thorns, others poisons, still others rich, nutritious grains and fruits; is told to fill them with what seeds he likes, and in his chosen proportions, with this express understanding, that he may go where he likes, upon good soil or poor, but every life step *plant a seed*, which bears its perennial crop forever, and all the seeds and fruits thus borne *follow his future tracks*, and *oblige* him to *eat* them all, and experience their legitimate effects upon his body and mind *forever*. This supposition illustrates a veritable truth appertaining to us all. Yet, thank God, we are mercifully allowed to *empty* our pockets of old seeds, and substitute others of our choice, anywhere along through life!

LIFE IS NO TRIFLE. All that *God could* do to make it an all-glorious possession, He has done. We might expect that the master work of *His* hand would be, as it is, eventful and momentous beyond all finite powers of admeasurement! Let us realize of what it is composed, and how to make the utmost possible out of this literally *infinite* boon!

CAUSES AND EFFECTS govern all things in this life; govern all things between this fore part of life and that latter part; send all the effects of this life's actions over into and throughout that; thus making it like a silk web, formed by every act being a cocoon, with an endless web attaching itself in with all previous webs; at death we are all these individual webs united into one great life web, but every one *there*, and represented, and this identical web continuing on throughout eternity, and obliging us to partake there of all the deeds done here and there—a result most fearful to contemplate. About

1830, I published in the *New York Evangelist* an article to prove that the amount of pain attached to every sin was literally infinite, because it was everlasting—a truth applicable to all good and bad acts, after abating a single exception, viz. :—

224.—PENITENCE, PARDON, AND SALVATION FROM PUNISHMENT.

“THESE doctrines obviously preclude repentance and salvation; teach eternal damnation too plainly to be mistaken or evaded, not by divine election, but by eternal causation; make inexorable causation supreme, here and forever; annul penitence, and render forgiveness impossible; and are an elephant in the crockery shop of all existing religious tenets.”

REPENTANCE is unmistakably one phase of Conscience. It both confesses, and forgives. Our quotations and observations prove that those in whom it is large, both “beg pardon,” and grant it for wrong deeds, and try to “sin no more;” while small Conscience never sees, or acknowledges, or forgives a fault. An illustration, A., bad, wrongs B. and C. equally. B., very conscientious, feels much more indignant than C. with Conscience small, because B.’s large Conscience provokes his Destruction to punish A., while C.’s weak Conscience does not feel the wrong done a tithe as keenly, nor like punishing A.; but lets the wrong go almost unnoticed, except as it affects his other Faculties. A. finally repents, and confesses equally to both, and begs pardon. B. forgives fully, and likes and trusts him all the more; while C. has less to forgive and less forgiveness. This illustration holds true of all in proportion as they are conscientious, and both presupposes and *grows out of* a retributive and forgiving spirit *inherent* in this conscientious element. This shows that—

GOD FORGIVES. Shall He create this forgiving spirit in man, and not also exercise it in *Himself*? This forgiving *principle*, therefore, constitutes an integral part of Nature. “*Glory to God*” for incorporating this blessed institute of pardon upon His works, and Himself exercising it! Not that our sins hurt or goodness benefits Him. He is no more affected by anything we do than the sky is by gnats. When we transgress we “kick against His pricks,” indeed, not to His injury, but only to our *own*. “He who is righteous is righteous for *himself*, but he that sinneth, he alone shall bear it.” We should be good, not from “fear of the Lord,” nor even love of right, but because obeying law *makes happy*, that “enacting clause” of the universe.

PENITENCE PRESUPPOSES FORGIVENESS. It is not optional with us whether or no to forgive those who penitently implore forgiveness, but *obligatory* on us. We *must* forgive, not may or may not. It is

as much our sacred duty to forgive repentants as to repent when ourselves in error. That daughter of shame who repents and reforms and furnishes proof, is *entitled* to both complete forgiveness and *restoration* to confidence and hearthstones. To shut her out as now, and make "one false step" irretrievable, is neither Christianity nor humanity. Shall we ask God to "forgive us our trespasses, as we forgive," and refuse to overlook *her* errors! Let professing Christians *beware* how they thus betray an utter want of this the *distinctive* attribute of Christianity. And let all forgive all repentant offenders, pecuniary, moral, political, *et al.*

REPENTANCE is, however, a necessary precursor of forgiveness. A. can never be forgiven unless nor until he feels sorry for his sin, and asks forgiveness.

PENITENCE INVOLVES REFORM. It says, "I will sin no more," and the forgiver says, "Go, sin no more." And all law and justice punish subsequent offences more severely than first. One effect of sinning and repenting is to prevent subsequent wrongs, make restitution, and stop those violations of law which "roll up wrath against the great day of wrath." Repentant sinners are as much less likely to sin again as they are more sorry for past errors. Trust penitents implicitly, conjugal, mercenary, and all other. Penitence then secures this most desirable end—it arrests that violation of law which would otherwise continue to redouble future sinning and suffering together. This is a very great good; but by no means the greatest.

PENITENTS ARE BETTER THAN INNOCENTS.—All who have sinned, suffered, repented, and reformed, are actually purer and higher in the scale of moral excellence, and less liable to fall, than they were before either, and than those who have not tasted of "the forbidden fruit." The Prodigal son, *returned*, becomes the favorite. A young man who has got through with his "wild oats" crop is better, less easily tempted, more trustworthy, than if he had remained innocent; provided he has not wrecked his constitution. Hence, "*Reformed* rakes make the best husbands." Innocence is good, but repentance is better. Thus saith the human constitution. Not, however, that we should do evil that good may come, but that, having *done* the evil, we may turn it to good practical account, and use it as a stepping-stone upon a higher moral platform than we could otherwise possibly have ascended.

RETRIBUTION WORKS OUT REFORMATION.—"A *burnt* child always shuns the fire." Punishment is the great moral instructor of the universe. "Experience is the best of schoolmasters." This "old saw" is but the laconic expression of this great practical and *necessary*

result of all punishments whatsoever, and *inherent* in them. We dread pain, and do our utmost to escape it in the future. Our intellect compels us to inquire and ascertain what causes our pain, its source and obviation, and sooner or later, here or hereafter, it *will teach* us what broken laws cause our suffering. Whether it takes an age, or a thousand, or a million ages of eternity, experience will finally teach the natural laws and consequences of sin; and this enlists every feeling of self-love, that most powerful of all instincts,¹⁷² in resisting all future temptations to sin, so as to escape additional sufferings. We saw that physical pain was a curative process: we now see that mental and moral suffering is equally so—see that there inheres in punishment itself that which both makes all sinners the better for past sins, and prevents future.

PAUSE AND PONDER, O reader, over the sweeping and far-reaching consequences of these moral truths. Behold in them that “partial evil is universal good,” because all learn from other people’s errors as well as our own—a drunkard being a perpetual and most effective temperance lecturer. “*Partial* evil?” There is *no* evil. *All* is good. If one does sin and therefore suffer, this compels him to learn the miseries he thus self-inflicts, which is good, by making him the better for sinning; and if he does not sin, that too is good. The punitive economies of God render evil an absolute impossibility. “The very wrath of man shall praise God, and the remainder of wrath He will restrain.”

INDIVIDUAL AND PUBLIC SUFFERING is therefore of necessity individual and public benefaction. The very depravities and miseries of the race to-day, and in the past, are the very guarantees of its all the greater moral elevation hereafter. All hail, then, this punitive department of Nature! Let us rejoice in suffering, but learn therefrom not to sin and suffer more.

ETERNAL BURNINGS are abrogated by this law, and shown to be purely mythical. The very constitution of pain renders them impossible; we have just shown how. Punishment is *reformatory*, not retributory, and *will* reform all sooner or later, and thus *take all out of hell*, and put *all into heaven*!

OUR OWN MENTAL STATES constitute all the heaven and hell we and all others will ever enjoy or suffer. A wicked internal *state* will make one miserable in heaven; a right, pure, holy, good state will make all its partakers happy in hell. They consist not in places, but in *states*, and are *within* us and *of* us; and our own creation. And all the tormenting devil we shall ever have is our own devilish *spirit*. Cast out

that, and all devils will let you alone, now and evermore; for only the sinful can ever be tempted. Indeed the very devil himself and all his coadjutors are human benefactors, because in and by persuading men to sin they teach them practically its evils and folly, and thereby save them from future sins and sufferings, just as the confidence man, by cutting our eye teeth, saves our purse more in future than he extracts from it in the present.

THESE DOCTRINES may be unpopular, but they are *not untrue*. All that *is*, is *good*. Let those upset their foundations who can.

FAITH IN CHRIST DOES NOT ANNUL NATURAL PUNISHMENTS. Christians who sin suffer the natural-laws penalties precisely as if they were not Christians. A Christian, however pious or humble, who takes corrosive sublimate, whether by design or accident matters not, suffers precisely as if he were not a Christian. His faith in Christ is of no more use than waste paper in neutralizing this poison. A Christian will bleed to death from a severed artery as quickly as an infidel, but no quicker. All violations of the health laws punish Christians as much as others; and they are as sickly. Whatever faith and repentance may do by way of obviating the evil effects of Adam's taint, let others say, but Christians, know this, that you are every whit as amenable to the natural laws and their punishments as infidel and heathen. Yet true love to God will induce obedience to His natural laws as well.

"This upsets Orthodoxy, root and branch. It renders salvation by Christ both impossible and unnecessary—impossible in that it conflicts with the action of the natural laws, by substituting effects directly contrary to natural, and unnecessary, because they make punishment *work out a natural* salvation."

THIS WORK has never yet stooped, probably will not stop, to inquire whether any or all of its doctrines harmonize or conflict with orthodoxy, or heterodoxy, or no doxy at all, but *only* whether they are *phrenological*, which it guarantees. God made Phrenology, and all its inferences, and as Diogenes said, when a man carrying a stick ran against him and said, "take care then," "Its for *you* to take care, not ME." It concerns *religionists* to inquire whether their doctrines conflict with these, but it does not concern these views whether they tally with or upset any others whatever. It concerns *us*, not the sun, whether we have right or wrong ideas of his motions.

"But these views certainly do ignore salvation by Christ."

An extra pious Oberlinite, after hearing these views at a lecture,

replied, when asked whether they blended or collided with Oberlin theology, and what he thought of them?

"A most excellent lecture. Full of sound sense, forcible logic, and withal, very suggestive; but, sir, it had this *fatal* omission: it had in it no '*Jesus Christ, and Him crucified.*'"

Pray, sir, has arithmetic, astronomy, geology, or any other natural science any "Christ crucified" in it? And yet they are true, and you study and use them. Have agriculture, mechanics, commerce, etc., any Christ crucified in them? And yet, must we condemn them for this omission? No natural science has *any* atonement in it, nor has Phrenology, and for this obvious reason: it unfolds *primeval* humanity, *before* the alleged fall, and, therefore, before there was any *need* of salvation by Christ, or by any other means, and of course could not possibly take cognizance of either. And it has always seemed to me that many Christians impose too much upon their Bible, by making it teach more than was ever intended—claiming that it teaches universal theology, whereas it has always seemed to me that its entire thought and design is to teach salvation by Christ, not religion or theology as a whole. Still, in saying this, I descend from the exalted heights of science into the narrow vale of personal opinion. Let us learn salvation from the Bible, but all else religious from other sources. At least Biblicists had better not pit the Bible against science, because we *know* that science is of *God*, and the divine fiat; that all truths harmonize with all others; that as far as Nature and the Bible harmonize, both are right, but wherein they conflict, the Bible is wrong; for God made Nature the touchstone and standard of all truth, so that wherein the Bible conflicts with it, thus far it is spurious.

GOOD PREACHERS ARE POOR PRACTITIONERS, oftener than the converse; because they "know how it is *themselves.*" Gough and reformed drunkards make better temperance appeals than any *can* make who do not know *by experience* whereof they affirm, yet are *therefore* the more easily tempted to drink. All *extra* good preachers, in pulpit and on paper, will bear watching, because they have drunk deeply of those poisoned fountains against which they warn others. We naturally expect these most emphatic denunciators of vice to be angels in goodness; yet those identical conditions which enable them to *preach* so well, make them poor practitioners of what they preach. Harlots would make the *very* best lecturers and writers on moral purity, virtue, and conjugal fidelity, as ex-drunkards do of temperance, *as will yet be proved experimentally.* A most eloquent preacher of righteousness,

who lived far below his preaching, when censured for so doing, replied : that he was *hired to preach*, but *not* to practise ; that he was paid \$2,000 simply for preaching, but nothing for practising what he preached ; and that, if they wanted him to *practise* all he preached, he should ask \$4,000 *more*, because it was as easy again to preach well, as to *practise* what he preached. Only those can preach superbly who have deep *heart experiences* of the evils they denounce, and the need of the virtues they recommend, *unless* they have *passed beyond* these stages : 1st. Of experiencing the sin they war against. 2nd. Of loathing it. 3rd. Of having *risen above* it. Extra good preachers are usually yet in only this second stage. Yet how much better to preach well even without practising, than to practise poorly without preaching. Guide-boards never *travel* their recommended roads.

225.—CHRISTIANITY AND PHRENOLOGY IN PERFECT HARMONY.

MUCH WHICH PASSES current as Christianity, and assumes its sacred name and livery, is as great a misnomer and perversion as is possible. Thus, Christ was humble, while many of His modern counterfeits are by far our proudest, snobbiest, daintiest, exclusive aristocrats. He spent His strength in doing good ; they theirs in despising and grinding the face of the poor. He wore common, homespun garments ; these wear the most extremely and ridiculously fashionable toilets worn, and outrage nearly every one of His divine doctrines and examples. Still, our business is not with pretenders, but only with *His doctrines* and examples on the one hand, and the teachings of Phrenology on the other ; and their coincidence is indeed *perfect*. Both enjoin worship of God as a paramount human duty. Christ ascribes to God precisely those same attributes of justice, benevolence, wisdom, paternity, spirituality, stability, knowledge, etc., which Phrenology also ascribes to Him.²⁰⁷ He enjoined doing good, by precept and example, pronouncing charity the greatest of virtues, and giving that precise *aspect* of it enjoined by this philanthropic science, viz., doing good to man "*for the sake*" of our common Father above.²²⁸ Both ascribe a spiritual existence to God, angels, and men ;²¹⁴ enjoin justice, penitence, and forgiveness ; inculcate hope of immortality, and require its exercise ; interdict lust, profanity, drunkenness, gluttony, covetousness, theft, fraud, malice, revenge, lying, false witness, murder, and kindred vices ; while both inculcate filial affection, moral purity, chastity, honesty, parental and conjugal love, friendship, industry, manual labor, self-government, patience, perse-

verance, hospitality, sincerity, cheerfulness, faith, spiritual-mindedness, intellectual culture, and the entire cluster of the moral virtues. Christ's law of kindness and "the other check" doctrines, are in signal harmony with the teachings of Phrenology. In short, His doctrines harmonize perfectly, *in all their shades and phases*, with the teachings of this moralizing science. The morality He teaches is perfect throughout, and directly calculated to reform and bless mankind. Every one of His doctrines is either an expression of some phrenological law of mind, or else founded on some law, while His every precept is promotive of personal happiness and public morality; and He Himself furnishes a perfect pattern sample of that predominance of the moral sentiments over the animal propensities, which constitutes the *great* phrenological condition of personal and public perfection.¹⁹⁶ Phrenology does not suggest a single error or improvement in either His doctrines, precepts, or examples; or in that inimitable illustration of them in practice described in the first few chapters of the Acts of the Apostles, when all went from house to house, healing the sick, bestowing alms, breaking bread, and having all things in common. Would that His benign and heavenly doctrines were but comprehended and practised by all His professed followers, and all the world. A holy and a happy state here and hereafter would then be universal. "Eye hath not seen, nor ear heard, neither hath it entered into the soul of man to conceive," the joy, the ineffable glory and human exaltation which obedience to His precepts and practices would confer on man!

226.—DEATH AS AFFECTING THE SOUL, AND FUTURITY.

INFINITE GOODNESS devised and ordained it. Let this reconcile us to it, calm all our fears concerning it, and assure us that, so far from its being a horrid monster, it is imposed upon us by our loving heavenly Father, not by an avenging fiend. It is an inexorable necessity, because, like breathing, it embodies a good as necessary as it is imperious. We could no more afford to dispense with it than with birth. Fruits cannot fulfil their destiny without falling; nor can we without dying, that is, being separated from our parental organism. Everything appertaining to it signifies that the change it works out is great and fundamental, yet only for good. It not merely changes, but, like birth, it *revolutionizes* our entire internal status, and external surroundings. It undoubtedly effects changes, (?) revolutions, in the very grain and texture of our spirit principle itself. quite

analagous to dyeing garments, or steaming wood, or soaking something porous in some liquid which fills it up, and effects beneficial chemical changes in its very appearance and qualities. These three revolutions it renders sure :—

1. IT DROPS "THIS MORTAL COIL." It completely severs the soul from all its organic relations and dependences. Organism is absolutely necessary for *starting* life,²⁵ as it is in growing fruits, yet not for its continuance, any more than for the continuance of ripe fruits, after being plucked. Several passages of this work virtually show that age loosens life's organic clasp, just as does the apple on its parent tree, till at death it drops. Those whose hold on life is feeble, that is, who are approaching death, are the more clairvoyant, that is, can foresee and foreknow spiritually the clearer the nearer dead they are, yet the less as they recover; and experiments made on extremely nervous subjects show that, when in an extremely nervous state, they can read closed books correctly, though in a room perfectly darkened, and their eyes bandaged to the utmost besides. This proves a spiritualistic state, or that the spirit principle can act independently of the senses. In the earlier stages of life, organism is indispensable, like shucks to walnuts, and chestnut burs to chestnuts, but becomes less necessary as life advances, till finally, like those shucks, wholly unnecessary at and after death; or rather till a *new life* shakes it off, when it lives on without it far better than before with. Else why this change? The undoubted reason of that improvement of intellect and moral elevation, or that sanctification of all our Faculties shown to accompany age,²¹⁶ is that age gradually loosens this organic clasp on life, thereby giving this spirit principle greater ease and freedom of action than its former closer bond to matter would allow; while death completes this severance. A soul fully ripe needs no organic help, and dispenses with it; and if at any time the organism becomes badly crippled, as by mangling, etc., this spirit life cannot afford to loose itself by clinging to a mangled corpse, dies, that is, separates itself from it, and goes on without it. Death severs the soul from the body; this is certain.

2. ALL ORGANIC PERVERSIONS thereby instantly cease. We proved that all physical impairments morbidized, vitiated, and demoralized the spirit entity; as do drunkenness, a sour stomach, etc.²⁸⁻³⁰ All these, death ends. For example—

A DRUNKARD'S INFLAMED STOMACH not only creates an insatiate thirst for more alcohol, and thus of opium and tobacco eaters;¹²⁴ but also inflames, vitiates, and perverts all his passions; making a naturally

smart, moral and good man coarse-grained, vulgar, sensual, stupid, cruel, and even murderous; changing a fond husband and father into a demon incarnate; substituting delirium tremens for an amiable lovely spirit; and making a real demon out of a real good husband, father, and citizen. But for drink he would soon become himself again. Now death stops that stomachic hankering, and thereby kills this inflammation, and with it all this depravity.

A MISERABLE DYSPEPTIC, who, but for his dyspepsia, would again be as amiable as a saint, is now as cross and hateful as Satan, and a naturally angel wife is often made a perpetual Xantippe by nervous disorders, both of whom death will release from all those awful feelings their diseases impose, and of all those morbid and sinful proclivities thereby created,²³ thus restoring them to their pristine moral excellence; and making them again as angelic in fact as they are by Nature. In other words—

A LARGE PART of the sins and vices of mankind originates, as we have demonstrated, from purely physical conditions, all of which conditions and resultant sins death will necessarily obviate. We little realize how much our inflamed bodies distort and demoralize our souls;³⁰ all of which death will annul. Thus local sexual inflammation creates lustful feelings, desires, and actions; makes its victims libertines, adulterers, seducers, and self-defilers, or all combined; whereas but for this organic inflammation they would be real good, pure, loving, provident, conjugal mates. Now death will kill this local fount of all these vices, and preventive of all these virtues. A great many might crave to die if only to substitute these angelic virtues for those erotic depravities. Will the reader please take special notice of this *wholesale* slaughter of depraved manifestations thus *necessarily* effected by death's absolute annihilation of their only procuring cause? There is no escaping or parrying this really glorious conclusion, that death will make short, sharp, killing work of at least nine-tenths of human vices and their consequent miseries. Let all who must die shout praises to God for a moral purifier, thus sweeping and potential. Death is a *necessary good*, proportionate to its inexorableness, we could not at all afford to lose any more than a babe could afford not to be born. All should say "I would not live always." The bearing of this principle on eternal damnation, which it upsets, is apparent.

WHAT A GLORIOUS CHANCE it thus proffers for reformation, a complete, radical, fundamental "change of heart," and life! Many who see the folly and feel the misery of their sinful lives would most gladly

change if left to themselves, whereas old cronies keep pushing each other on in their sinful, sensual acts. Now death, O ye poor liquor-crazed drinkers, *et al.*, will stop your friendly (? fiendly) tempers from tempting you any more. That bad woman or man, O ye sexual sinners, has obtained such a magic serpentine power over you, which perhaps you return, as to chain you spell-bound to those sexual vices from which you would fain be delivered; now death, like striking the charming serpent, will break this magic spell, and free you like the charmed bird, give you back your freedom and wings, and enable you to start again, and begin exsistence anew.

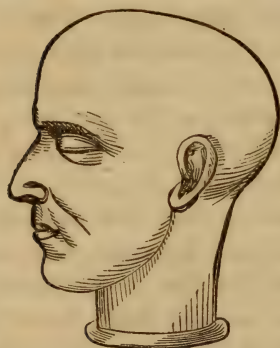
3. ALL OUR ASSOCIATIONS AND SURROUNDINGS death will change, and thus revolutionize our very life centre, and all its outworkings.

CHANGES GENERALLY BENEFIT. Every war completely revolutionizes all warring nations throughout, and always for the better. Soldiers by millions broke up all their past avocations and associations only on returning to choose much better ones. Deaths often change families for the better. Failures in business often work out good. And in general changes are more desirable than dreadful. Then why should not this grand life break-up of the past and present enable us to turn many a life corner for the better; cast off many an existing hindrance; deliver us from temptation and all our "easily besetting sins"; and put us on a life basis both entirely new, and infinitely improved! That calm, peaceful, sweet, good, heavenly, holy, happy, beatific, angelic expression often left on the face a few hours after death already noted,²¹⁷ incontestably proves that death makes many immeasurably happier than life itself; and that its changes are beatific beyond our utmost power of conception! We have *proved* that Spirituality renders us inexpressibly happy;²¹⁵ now death thus spiritualizes and thereby ecstasises all our Faculties, together with our entire beings. I honestly believe our true full view of the other side of death is wisely kept mostly from us, because, if we could see clear over the Jordan of death so as to get a full soul-ravishing view of the beautiful and all glorious "promised land" awaiting us on the other side, *nobody would remain here*, but all would instantly drop all carnal sins, all worldly pleasures, all business, speculative, mechanical, official, and all other terrestrial pursuits and pleasures, and *make one grand rush* through the portals of death into the gardens of Paradise, now wisely hidden by a surrounding opaque wall, so that none would remain to stock the earth, or create offspring, to ultimately pass on to its glories.

WHY NOT PERPETRATE SUICIDE then? Because we should lose in the long run, by thus plucking ourselves violently from the tree of this life before we get well ripened. As no fruit plucked prematurely ever obtains its full flavor; so we must fully grow and mature on the tree of this life in order to get our full luscious mental and moral growth and flavor for our waiting eternity. None should wish to die till they must; while all should live on just as long as possible, in order to thus *start* on the other side, upon the highest and most advantageous platform possible. This is another health-caring motive.

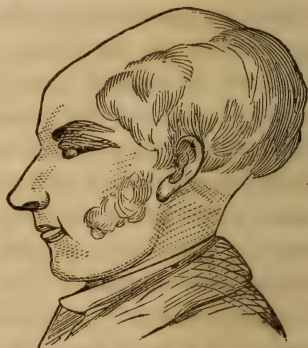
4. THE SECOND BIRTH is the true name for that process we now wrongly denominate death. It is *not* death. It is but an invigorating *sleep*, preparatory to starting the race of eternity, and infinitely redoubling to our capacities. It is to life what the chrysalis state is to

KINDNESS LARGE.



No. 154.—MR. GOSSE.—GAVE AWAY TWO FORTUNES.

SMALL.



No. 155.—JUDAS, JR.

worms—that which puts up into wings, etc, that food-material eaten in the worm state, only to enable it to fly instead of crawling; sip the delicious nectar of flowers in place of eating coarse-leaf garbage; and immeasurably enhancing its beauty, locomotion, intelligence, range of vision, and all its powers of accomplishing and enjoying. This life is our worm state; antenatal life is our egg state; death is our chrysalis change; and eternity is our butterfly state. Let us wait patiently till Nature fits us fully for it, but rather desire than dread our last terrestrial sleep! or rather, *our second birth*.

WE OFTEN FEEL that when we die we shall go "home" to our final place of rest and abode, AND WE SHALL! This strong yearning and natural anticipation has its prospective *reality*!

THE AUTHOR HUMBLY BEGS that his readers will scan well those phrenological corner-stones on which this temple of our future state is reared. Every principle here laid down is *true*, and every conclusion deduced therefrom is legitimate. Neither of these premises nor conclusions can be shaken or invalidated one iota. This mere glance at futurity will bear, and may receive, future amplification. It certainly deserves present thoughtful consideration.

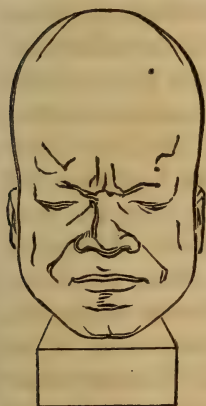
XXII. KINDNESS; OR, "BENEVOLENCE."

227.—ITS DEFINITION, LOCATION, DISCOVERY, ADAPTATION, ETC.

THE GOOD SAMARITAN; pity; compassion; goodness; sympathy for distress; humanity; philanthropy; the self-sacrificing, humane, accommodating, missionary spirit; desire to make and see others happy; hospitality.

ITS LOCATION is on the fore part of the top head, on its middle line, in front of Worship; commencing about where the hair begins to grow, and running back nearly to the middle of the top head. It is directly in front of the fountanelle. It is immense in Eustache, who received the premium for goodness.

KINDNESS VERY LARGE.

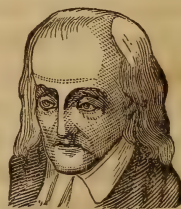


No. 156.—EUSTACHE.

ITS NATURAL LANGUAGE

bends the body, and especially the head, forward, towards the one pitied. Extra good and generous persons never stand up straight, nor bend backwards, but always forwards. It is very large in Bishop White, who opened the signing of our immortal Declaration of Independence with prayer, and was confessedly

NATURAL LANGUAGE OF
WORSHIP AND KIND-
NESS.



No. 157.—BISHOP
WHITE, OF INDEPENDENCE
MEMORY.

one of the best men in the world. The natural language of both Worship and Kindness is most apparent in this likeness of him, as are both these organs.

GALL discovered it thus. An intimate friend said to him, "Since you are seeking signs of character in the head, you should examine that of my servant, Joseph, whose goodness has no limit. In the ten years he has been with me, he has shown only the utmost of kindness

and gentleness, though brought up with a rabble of servants." Gall then remembered a young man he had known from boyhood, who had always distinguished himself by his goodness of heart. Though passionately fond of out-of-door sports, forest rambles, etc., yet he always bestowed on his sick brothers and sisters the most assiduous attentions; and when grapes, fruits, and dainties were distributed to all alike, he always retained the smallest share, and delighted to see others better served than himself; besides caring for pet animals, and weeping when they died. He retained this marked trait all through life. This made Gall suspect that goodness was innate, not acquired. One of the very best of boys was also pointed out to Gall, who took a bust of all three heads, and examined them side by side, and found one prominence common to them all in this organ; and extending his observations to schools, families, and animals, he soon confirmed this discovery by innumerable facts; so that he says "no fundamental Faculty and organ is better established. Since its discovery, nearly every day has confirmed it." Many animals manifest both this organ and Faculty in a high degree, such as dogs, especially Newfoundland, swine, horses, and even swallows, robins, etc.

MAN ENJOYS AND SUFFERS, and is so inter-related to others, that he can both enhance the enjoyments and diminish the miseries of mankind. If he could experience neither pleasure nor pain, or if all were isolated from all, so that they could neither communicate nor receive good, Kindness would have been out of place. But it so is, that man can both enjoy and suffer, and also promote the happiness and assuage the miseries of his fellow-men, and of brutes. To this ordinance of nature, Kindness is adapted, and adapts man. Without it, man would be perfectly callous to the sufferings of others, and hence comparatively unrestrained from causing pain, and even taking life, which Force and Destruction would prompt him to do, whereas Kindness makes him shudder to cause suffering or death. Without it, our world would be one vast Golgotha of anguish. Not one good Samaritan would be found in all its borders; but this humane element dresses wounds caused by violated law, and pours the oil of consolation into troubled souls. No words can express the amount of human happiness which flows from its exercise. No other fountain of human nature yields more. Great as are the moral virtues—justice,²²¹ faith,²¹⁵ hope,²¹⁹ and devotion²⁰²—the greatest of all is "CHARITY." It is to the human character what the benevolence of God is to the divine—the final goal to which all the others tend.¹

THE GREATEST GOOD of the greatest number, is an unmistakable ordinance of Nature. This, and the "goodness of God," have been already fully presented.²⁰⁷

MAN NEEDS A MENTAL FACULTY to put him in relation with this benign arrangement of Nature,³ else how could he adapt himself to it, or even recognize its existence! His societarian relations also demand its perpetual action.¹⁷⁸ Ordained to live in society, he needs something to prevent his improving this contiguity to perpetually inflict pain on all he meets and can reach. Something must restrain Destruction and Force powerfully and perpetually; else they would make war continually.

ALL NEED HELP, pecuniary, advisory, sympathetic, or some other. We need not be, yet often are sick,⁷⁰ the victims of accidents, and subjects of pains, and even often agonies,¹⁹ from causes innumerable. Assistance of one kind or another is frequently most acceptable, and sometimes about as *necessary* to life as food. A scorching fever renders you helpless, and indescribably miserable. Without aid you must linger on in agony, and die, but that Nature kindly succors you by touching the heart of beholders with that pity which "lends a helping hand," till your distress is relieved and strength restored. You fall. But for the aid of this Faculty all your rivals and enemies would rejoice, and try to *keep* you down, not help you up; whereas, it disposes them so kindly in your favor, that they proffer their aid, put you upon your feet, and lend or give you their money, time, and labors, and, most of all, heartfelt sympathies, which you gladly reciprocate when they are in need. What provision in nature is more beneficial? How could man live in society without it! How thankful should we be that we can "bear each other's burdens," and relieve each other's wants and pains? that is, for this arrangement in Nature, and sentiment in man!

WE BLESS OURSELVES by blessing others. Doing good redoubles happiness in that delight created by the exercise of this Faculty. To receive in time of need is indeed blessed, but to give is far more so. A dollar kindly bestowed buys that worth of pleasure to the beneficiary, and as much more to the giver. Charity is the climax of the virtues. Only Infinite Goodness could have invented an institute thus glorious.

228.—DESCRIPTION, CULTIVATION, AND RESTRAINT OF KINDNESS.

LARGE.—Are deeply and thoroughly imbued with a benevolent

spirit, and do good spontaneously ; delight to bestow ; make personal sacrifices to render others happy ; cannot witness pain or distress, and do what can well be done to relieve them ; manifest a perpetual flow of disinterested goodness ; with large Friendship and moderate Acquisition, are too ready to help friends ; and with large Hope added, especially inclined to endorse for them ; with large Acquisition, bestow time more freely than money, yet will also give the latter ; but with only average or full Acquisition, freely bestow both substance and personal aid ; with large Worship and only full Acquisition, give freely to religious objects ; with large Force and Destruction, are more severe in word than deed, and threaten more than execute ; with larger moral than animal organs, literally overflow with sympathy and practical goodness, and reluctantly cause others trouble ; with large reasoning organs, are truly philanthropic, and take broad views of reformatory measures ; with large Friendship and Parental Love, are pre-eminently qualified for nursing ; with large Causality, give excellent advice, etc., and should not let sympathy overrule judgment ; with large Friendship, Beauty and Ambition, and only average propensities and Dignity, are remarkable for practical goodness, live more for others than self ; with large domestic organs, make great sacrifices for family ; with large reflectives, are perpetually reasoning on the evils of society, the way to obviate them, and to render mankind happy ; with large Friendship, are hospitable ; with moderate Destruction, cannot witness pain or death, and revolt at capital punishment ; with moderate Acquisition, give freely to the needy, and never exact dues from the poor ; with large Acquisition, help others to help themselves rather than give money ; with large Destruction, Dignity and Firmness, at times evince harshness, yet are generally kind.

FULL.—Show a good degree of kind, neighborly, and humane feeling, except when the selfish Faculties overrule it, yet are not remarkable for disinterestedness ; with large Friendship, manifest kindness toward friends ; with large Acquisition, are benevolent when money can be made thereby ; with large Conscience, are more just than kind, and with large Force and Destruction, are exacting and severe toward offenders.

AVERAGE.—Manifest kindness only in conjunction with Friendship and other large organs ; and with only full Friendship, if kind, are so for selfish purposes ; with large Acquisition, give little or nothing, yet may sometimes do favors ; with large Worship, are more devout than humane ; and with only full reasoning organs, are neither philanthropic nor reformatory.

MODERATE.—Allow the selfish Faculties to infringe upon the happiness of others; with large Force, Destruction, Dignity, and Firmness, are comparatively hardened to suffering; and with Acquisition and Secretion added, evince almost unmitigated selfishness.

SMALL.—Care little for the happiness of man or brute, and do still less to promote it; make no disinterested self-sacrifices; are callous to human woe; do few acts of kindness, and those grudgingly, and have unbounded selfishness; feel little and evince none of this sentiment, and are selfish in proportion as the other Faculties prompt.

TO CULTIVATE.—Be more generous and less selfish, and more kind to all, the sick included; interest yourself in their wants and woes, as well as their relief; and cultivate general philanthropy and practical goodness in sentiment and conduct; indulge benevolence in all the little affairs of life, in every look and action, and season your whole conduct and character with this sentiment.

TO RESTRAIN.—Lend and indorse only where you are willing and can afford to lose; give and do less freely than you naturally incline to; bind yourself solemnly not to indorse beyond a given sum; harden yourself against the woes and sufferings of mankind; avoid waiting much on the sick, lest you make yourself sick thereby, for your Kindness is in danger of exceeding your strength; be selfish first and generous afterward, and put Kindness under bonds to judgment.

ITS CULTIVATION by exercise is our sacred duty and privilege. Shall God promote the happiness of all His creatures, in every work of His hands, and shall not man, too, be “co-workers” with Him? Shall we receive a constant outpouring of every conceivable means of enjoyment from Him, and shall we not do by others as we would that He should do by us? Allowed to be partakers with Him in this glorious work of disseminating happiness, shall we not accept the divine proffer? An example thus set us by Infinite Goodness, shall we not follow? Even in order to secure our own happiness we must seek that of others. “Blessed are the merciful, for they shall *obtain* mercy.”

“**THE POOR** we have always with us,” that we may never lack opportunities of doing good. Yet how negligent are we of the duty we owe them! We have indeed provided poorhouses for them; but many will suffer most direfully before they will consent “to come upon the town.” Such are often the most deserving, and should be sought out and aided in some delicate way, which shall not wound

their pride. Public institutions can never take the place of private charity. We must do good in *person*, and from *love* of it—must feed the hungry, clothe the naked, visit the sick, and scatter happiness wherever we go, with our *own* hands. This alone exercises Kindness, and secures its reward.

GIVING MONEY is not, however, always necessary. We can often do great good without; and frequently help the poor far more effectually by helping them to help themselves, than by direct donations. Indeed, the latter way is by far the best. The Quaker method of supporting their poor is as efficacious as admirable, and should supersede poor-houses. Employment should be furnished to those who are able and willing to work, and they paid liberal wages. This taking advantage of their necessities to “grind their faces,” is outrageous. Rather pay them over than under the real worth. Let those who own lands give the needy an opportunity to raise their own produce, and thus encourage industry. This giving to mendicants of whom you know nothing, often subjects the donor to imposition, as well as injures recipients, by furnishing them with the means of getting drunk, and the like. There are always enough whom we know to be deserving.

THE LONDON TIMES, after arguing the utter folly of attempting to feed all their poor by donation, urges one most noble suggestion—that those gentlemen’s immense parks, now rendered comparatively unproductive by being kept for hunting-grounds, be made accessible to the poor, so that they can raise thereon the necessities of life. To prevent the tillage of land while human beings are starving for what they would, if allowed, raise upon it, is utterly wrong. Land is the common birth-right of all God’s children. Every member of the human family has an “inalienable right” to food, and the means of procuring it, that is, if he cannot attain it without, to the use of as much land as will give him his “daily bread.” This fencing in land from the famishing, for pleasure-grounds merely, and putting in the pocket of exclusiveness the deeds of thousands of acres on which to speculate, is an outrage on human rights, and robbery on a great scale. As well speculate in the air of heaven, and let those suffocate who cannot buy it at exorbitant profits! Buy land enough to raise a living! Western “squatters” are right. The public lands should be free to occupants. Grant this, and we should have no poor, for it would render produce cheap, and wages high.

PLANTING FRUIT-TREES by the wayside, and in unoccupied land, and

allowing the poor to gather their own fruit, and sell the balance for grain, would subserve a similar end. Providing for the necessities of the poor would also banish most crimes, as well as wretchedness, and thus save the enormous expenses of courts, prisons, and lawyers. Poverty is a prolific parent of robbery, burglary, murder, etc.; and a generous public spirit and provision for the poor would both remove all excuse, and also bind all so cordially to all, in the strong bonds of brotherly love, as effectually to suppress most forms of wickedness. Kindness will convert the most hardened into good members of society. The SELFISHNESS of society provokes most of those outrages on its laws and peace which we try to arrest by punishment, but in vain.

PROFESSING CHRISTIANS especially should, like their great Exemplar, "go about DOING GOOD." Should they ride in splendid carriages, live in princely palaces, amass fortunes, and then despise their poor fellow-beings, *because* of their poverty? And let us all do whatever good we can, in all the walks of life; not merely by relieving human woe, but especially by that kind, humane conduct and carriage which this Faculty always produces.

INDIVIDUAL CHARITIES by no means constitute the widest or most profitable field for the exercise of this Faculty. Men have minds as well as bodies. We can often benefit the rich even more than the poor. Not by condolence merely, often a source of great relief and comfort, but by reforming them. Every evil is to be done away, and every human power to enjoy developed. This progressive doctrine pervades our work. But all this must be brought about by MEANS. And those means must be used by MEN. These are the largest fields in which to exercise Kindness—fields all whitened for the harvest. Individual charity only lops off now and then a twig of the great tree of human woe. We can and should lay the axe at its root. Thus, though feeding and clothing a few of those wives and children brought to want by intemperate fathers and husbands may do good, yet to prevent this misery-generating traffic, and render the inebriate temperate, would do infinitely more; because the labors of the reformed father would then provide for them far better than private donations, and at the same time render them inexpressibly happy in the restoration of their father and husband to their affections. Nor should we slumber over such public misery-breeders, but resolutely attack and demolish them. And thus of many other evils, and their causes.

OUR WORLD IS FULL of like causes of depravity and woe. And

these causes must be removed. And every one of us is under a moral obligation to do all we can to obviate them. To sleep over this glorious work is sinful ; to engage in doing it is the greatest privilege of mortals. And to do it, men require, more than anything else, a knowledge of the causes and cures of their miseries ; so that all should embrace and make every possible opportunity for obtaining and diffusing this knowledge. This glorious field of human reformation, now all white for the harvest, we should all labor with our utmost endeavors to gather.

THE YOUNG should be especially prompted to Kindness. It is small till about the second year, because Nature will not spend her energies in developing it till they are old enough to do good with it ; but from two years old upward it becomes one of their most prominent organs. Hence they should be pleasantly requested to do those numberless little errands and favors which so effectually promote the happiness of all around them, and in the doing of which they take so much pleasure. They delight in action, and love to oblige, and these little runs gratify both. Their natural pleasantness and good-nature, and that gushing fountain of disinterested Kindness which flow forth in every action and feature of lovely childhood, and shed so much happiness on all around, should by all means be encouraged, both for their own sakes, and that, when grown up, they may bless all around by their goodness, instead of curse all by their selfishness. To secure so desirable a result, various simple yet efficacious expedients may be devised, among which kindness TO THEM stands first. Kindness excites Kindness ;⁶⁸ so that every favor you do them, provided your manner is also kind, awakens this divine sentiment in them. Evince a deep and permanent interest in their welfare, and a disposition to gratify them whenever to do so is proper, and depend upon it, they too will always be good to you and to all around them.

ENCOURAGE LIBERALITY in them, and see that their generosity is amply rewarded. Give them things, and encourage their sharing them with each other. Especially show them how much more they enjoy what they divide. When they refuse to give, show them how unhappy their selfishness renders them. Give them a full supply, so that they shall not want, even if they are liberal. Be generous to them, and they also will give freely ; but stint them, and they will give sparingly and grudgingly. Mothers especially should improve those thousands of incidents furnished by their plays for developing this Faculty. Prevent their seeing animal butchery. Send them

from home killing days, if such days must come. Yet many boys are allowed even to go from home to witness it. At first they always shudder at the sight as something most horrible, and so it is.¹⁰⁰ A girl in whom Kindness is large, on seeing a calf going to be slaughtered, besought her father to buy it in order to spare its life, which he gratified her by doing. She never allows herself to taste animal food, because its consumption augments its slaughter, the thoughts of which she cannot endure.

ADULTS should not sear their Kindness by witnessing or perpetrating such slaughter, because this arraying Destruction against it, blunts Kindness. The naturally large Kindness of a friend of the Author, who resided near a place of animal torture, was so wrought up by their piteous groans, and by the blows with which they were beaten while dying, so as to make their meat tender, that he finally remonstrated with the butcher, but to no effect. At last, he threatened to make *him* groan if he heard any more such bellowings in his yard, and in a manner so determined as to put a stop to them. He would not suffer his own Kindness, or that of his family, to be thus calloused.

SHOOTING BIRDS is, if possible, still worse; because, though their sufferings are short, yet such wanton destruction of these happy, harmless songsters, sears the gunner's Kindness. Hunting birds exerts a most pernicious and hardening influence on boys. Besides, why deprive us of the pleasure of listening to their sweet warblings? They also preserve vegetation by devouring worms. Probably, an abundance and variety of birds would destroy the insect of late so detrimental to the wheat, potato, and other crops. Wrens, when beehives are elevated, go under them mornings, and consume that fatal enemy of these sweet-collectors, the worm. All wanton destruction violates Kindness, and must therefore be injurious in all its effects. He is practically inhuman who "needlessly sets foot upon a worm."

If it be objected, that to kill wild and noxious animals, hawks included, is necessary to human happiness, the answer is, that Nature causes them to retire at the approach of man; and this saves the wear and tear of Kindness in killing them. Still there is less, if any, objection to their destruction; but robbing harmless birds of life, just from love of killing, is most barbarous.

ITS RESTRAINT AND DUE REGULATION sometimes becomes important. Though it cannot be too powerful, provided it is rightly

directed, yet it is often exercised most injudiciously, so as to do much more harm than good. How many have failed, ruined their creditors, and beggared dependent families, by lending, endorsing, and yielding to sympathy, in opposition to judgment? How much more good they could have done by spending their money otherwise! Those who solicit help most urgently, too often deserve it least. Give, but let it be judiciously. But never endorse. If you have a surplus, give it outright, and lend only what you can afford to lose.

A PORTLAND BOOKSELLER, in 1860, agent for my works, whom I requested to engage hall and see printers for me, in advance of my arrival, when I called to thank him for doing so much and so well for one he had never seen personally, replied :—

“I OWE YOU the thanks, not you me, because serving you gave me a great deal of real pleasure, which makes me that much a gainer in enjoyment. And if ever you want my farther aid, please give me another opportunity to make myself happy by serving you.”

THAT BENEFACTOR deserves to be immortalized for stating thus practically this natural law of human kindness; and as long as he exists—FOREVER—he will continue to enjoy the rewards of that “labor of love.”

THE JUXTAPOSITION of Kindness and Worship commands their conjoint action; or that we should do good to man from love of God. We have shown that Worship is the most exalted sentiment in man. Yet Kindness is equally high up, and still farther forward; and the two together occupy the *very* highest and most exalted seat in “the dome of thought, and palace of the soul.” To love God is most pleasurable and beneficial, and to do good to man is equally so; but to *unite* both by bestowing perpetual kindnesses on the common children of our common Father above as our brethren and sisters “*in the Lord,*” involves the conjoint exercise of our two highest and largest organs. Largest in this sense. As a large index finger is larger than a large little finger; and thigh than finger; so a large organ of Kindness is twenty times larger than large Color, or Size; and of course its exercise gives a correspondingly greater amount of happiness.

HELPING EACH OTHER IS A DUTY. The existence of this Faculty in all imposes an obligation on all to exercise it. “The good Samaritan” did no more than his duty, and no more than all are bound to do under like circumstances. One to whom we have given our lawful note has a valid claim on us for its payment, but no more valid than have those in distress for our aid *and money* when they are in real

want. Our Heavenly Father it is who makes these demands for help, through His suffering children, to which He has put us under sacred bonds to respond by the very tenor and structure of our being itself. His implanting this humane sentiment is His personal order that we exercise it. Let no legitimate claims on our generosity ever go to protest. And we must give all our cups of cold water *for God's sake* ; no virtue is as exalted as charity with this divine motive.

"YOUR DOCTRINES CLASH. Just now you enforced the doctrine of pure selfishness, and looking out for number one first ¹⁶² ; whereas here you turn square round, eat your own doctrines, and command doing good as a paramount duty."

SELF FIRST, OTHERS NEXT is the natural law. Unless we did look out for self first, we should have nothing to bestow, whether of dollars or strength. Men should make themselves and their dependants safe from want first, and bestow the rest while they live, not, like Girard, leave it to corrupt city governments and rascally politicians. ¹⁶³

TAKE CARE HOW YOU INJURE God's anointed ; for He has sharp-eyed sentinels stationed all around to note and avenge all wrongs. This sympathetic sentiment gives every man a *personal* interest in the welfare of all his fellows. Though *he* may wrong them, yet he will not let you. Abuse awakens sympathy, and this revenge.

THE GLORIOUS TRUTHS Phrenology teaches respecting "man's moral nature and relations," deserves careful consideration and revision. Reflective reader, please duly ponder the august problems here announced of the divine existence, attributes, worship, works, etc., of immortality, both as a natural *fact*, and as it stands related to our own selves, and then say, whether the hackneyed charge that this science tends to infidelity and immorality is not both utterly futile, and even libellous ; and whether any sermons or books whatever teach as exalted morality, as heart-felt devotion, or as much natural theology, as does this slandered science. Where are faith, hope, and charity as effectually inculcated and enforced ? Does it not cast the optics of inductive philosophy across the river of death, and reveal not only a future existence itself, but its *necessary* conditions and surroundings ? Can you not see farther and more clearly into "the life to come" through them than any other ? What sermons or "means of grace" bear any comparison with these doctrines in enforcing love to God and man, and a holy, exalted, pure, devoted moral life ? God and man* forgive the maligners of this man-elevating science. They know not what they do !

CHAPTER III.

THE SELF-PERFECTING GROUP.

LOVE of, and talent for the fine arts ; and for improvement in self-perfection, and obtaining and acquiring whatever is beautiful and perfect.

THIS GROUP ELEVATES and chastens the animal Faculties, prevents the propensities, even when strong, from taking on their grosser sensual forms of action, and hence is rarely found in criminals ; exalts even the moral sentiments, and constitutes a stepping-stone from the animal to the moral, and a connecting link between the moral and the intellectual in man.

LARGE.—Perfectly abhor the coarse, low, sensual, carnal, and animal action of the propensities, and admire the beautiful and perfect in Nature and art ; with strong propensities, manifest them in a proper manner ; with a large moral lobe, adopt imposing and eloquent forms of religion, as the Episcopalian ; aspire after a higher and more perfect state or style of feeling, character, and conduct ; and discard the imperfect and sensual in all their forms.

FULL.—Like style, but can live without it ; are like large in quality, only less in degree.

AVERAGE.—Have only commonplace aspirations after a higher life, and love of the fine arts, etc.

MODERATE.—Are comparatively indifferent to the beauties of Nature and art ; fail both to appreciate and adopt them, and prefer common houses, clothes, furniture, and style of living to the artistical and stylish, and feel out of place when surrounded by the elegances of life ; with large Worship, have a rude religion, etc.

SMALL.—Are rude, uncultivated, contented with few and plain articles of dress, furniture, property, etc. ; prefer the rudeness of savage to the elegances of civic life ; and are almost destitute of these perfecting aspirations and sentiments.

TO CULTIVATE.—Associate with persons of wit, ingenuity, and refinement ; visit galleries of art and mechanism, scenes of beauty and perfection, and read poetry and other works of the most polished and refined writers.

TO RESTRAIN.—Give more attention to the common affairs of life, and refrain from fostering esthetic subjects ; read history, science, and metaphysics rather than poetry, romance, etc.

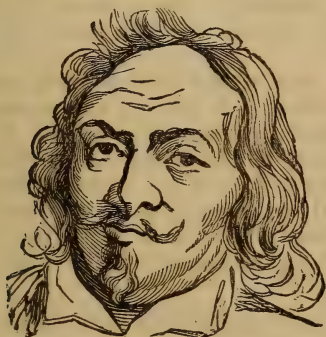
XXIII. CONSTRUCTION, OR "CONSTRUCTIVENESS."

229.—ITS DEFINITION, LOCATION, DISCOVERY, AND PHILOSOPHY.

THE MECHANIC—Ingenuity ; manual skill and dexterity ; handiness about work ; mechanical genius ; slight of hand in turning off work ; disposition and ability to mend, tinker, fix up, make, build, manufacture, etc. ; knack in tool using ; invention ; love of machinery, and ability to construct and run it ; skill in drawing, writing, sewing, folding, packing, etc.

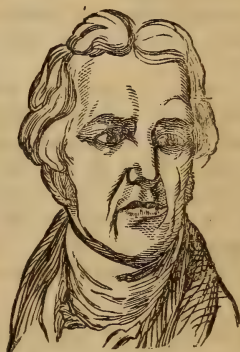
ITS LOCATION is in the lower and frontal portion of the temples. In

CONSTRUCTION VERY LARGE.



No. 158.—JACOB JORDAN.

SMALL.



No. 159.—LORD LIVERPOOL.

broad built and stocky persons it causes this part of the temples to widen and bulge out, but in tall, long-headed persons it *spreads* out upon them, and hence shows to be less than it really is.

"It is about half covered by the very considerably developed convolutions of the middle lobes. When large it manifests itself in the cranium by a protuberance shaped like the segment of a sphere, an inch or more in diameter at its base. It is placed sometimes a little higher, or a little lower, according as the neighboring organs are more or less developed, and lies immediately behind Music, and above Numbers. An unpractised eye might easily confound it with Acquisition, which is lengthened from behind forward, and, when very considerable, extends to the external edge of the superciliary arch ; while the protuberance formed by Construction, on the contrary, is round, and placed above that of Acquisition, as in Raphael and Michael

Angelo. When ample, it gives the temples a prominence equal to that of the zygomatic region; so that great mechanics have heads apparently enclosed between two parallel planes. In very distinguished artists this region is extremely prominent, and appears like a cushion, which engravers, painters, and sculpturers regard as a deformity, and therefore never express in its whole development. The deficiency of the organs in the anterior lateral part of the forehead sometimes leaves the temples of great mechanics less prominent than their zygomatic region."

"At Vienna, and in the whole course of our travels, we found this organ developed among all artists, draftsmen, and mechanics in proportion to their talents."—*Gall*.

"In animals ability to construct is not in proportion to their understanding. The beaver, with less intellect than the dog, surpasses him in Construction. The skulls of animals which build and burrow, have this organ much larger than those which do not. The beaver, marmot and hamster have it distinctly expressed. By it birds build nests, rabbits burrow, beavers build huts, and man hovels, palaces, temples, ships, engines of war, toys, clothes, and instruments of all kinds. It gives manual nicety, as in drawing, engraving, writing, carving, sculpture, and tool using generally. Many men of great intellectual endowments can never acquire manual dexterity."—*Spurzheim*.

"This organ is situated on that part of the frontal bone immediately above the speno-temporal suture. It lies on the posterior lateral portion of the super-orbital plate. Its appearance and situation vary according to the development of the neighboring organs. If the zygomatic process is very projecting, or if the middle lobes of the brain, or the forehead in general, are greatly developed, its size is less easily distinguished. If the base of the brain is narrow, this organ is a little higher than usual, and appears as high up as Tune."—*Combe*.

JAMES MILNE, of Edinburgh, whose apprentices *Spurzheim* examined, and told so correctly which would and would not make good workmen, says he will not take any apprentice who has not this organ large.

ITS ADAPTATION is first to that mechanical attribute of Nature, by means of which, whatever is made is a perfect and perfectly finished piece of mechanical contrivance and workmanship; and next to man's need of things made, such as houses, clothes, tools, and conveniences of all kinds. On examining any and all leaves, blades of grass, vegetables, grains, trees, etc., we find the most perfect mechanical contrivance and execution, from one end to the other. Behold, as a wonderful piece of mechanism, the structure of trees, their limbs, and junction with the body, their roots themselves, and their junction with their bodies, and the tremendous mechanical power they execute, and then say how wonderful is vegetable construction!

ANIMAL AND HUMAN MECHANISM is however immeasurably more perfect. Scan any and every joint, its grooves, hinges, tendons, etc., all the muscles, nerves and tissues of the whole body, the lungs, eyes, skin, any part separately, and all collectively, and say what human workmanship or machine bears any comparison with this divine workmanship.²⁰⁷ How infinitely minute yet perfect the capillary ramifications of blood-vessels, glands, nerves, muscles, fibres, etc. ! How inimitably perfect in invention and execution the mechanism of the human body ! Nothing is superfluous, nor anything wanted but is supplied. Its functions, how numerous, how complicated, how efficient ! Yet every one of them is effected by some instrumentality, for Nature never works without tools. Though we do not understand a hundredth part of those contrivances employed throughout the human body, yet what we do understand is worthy of all admiration.

THE INFINITE MECHANIST of the universe has also stamped upon all His works certain mechanical laws, which are generally self-acting. Of this the heart, lungs, stomach, and all our physical functions furnish examples. They "whistle themselves" in their growth, their various functions, and their decline.

THIS SELF-ACTING PRINCIPLE doubtless moves the earth, sun, and stars through their immense cycles, and both generates and applies the power required to propel such huge masses with such mighty velocity and precision. The Newtonian theory is incorrect.²⁷⁰ The true one proceeds on certain simple yet efficient mechanical principles, and embraces a self-moving and self-regulating law of perpetual motion. That principle exists in Nature, and will yet be discovered and applied by man, not by any arrangement of machinery, but by the generation and combination of some application of those two self-attracting and repelling forces which constitute magnetism, light, heat, galvanism, all the same, produce growth, and constitute the motive power of universal Nature. But—

THE HUMAN MIND towers far above all else, merely as a machine, in both its invention and construction. All else in Nature is nothing compared with the mechanism manifested in its construction. All attempts at its description only beggar it. Only a profound phrenologist can comprehend its beauty or perfection, nor he only begin. How admirable are all the works of God, and how full of the divinity of their Author ! But thou, O mind, excellest them all. Think what the creation of an immaterial, immortal, sentient, reasoning entity, capable of all those varied emotions we perform, and in such almost angelic

power, means. O Thou Maker of heaven, earth, and the human soul, all Thy works, like Thyself, are indeed infinite, but Thy last how infinitely Thy greatest! "There the *whole* Deity is shown!" Its mechanical construction is what this work attempts to expound.

MAN IS ENDOWED with this mechanical capacity and intuition and so constituted as to require houses, garments, tools, agricultural, mechanical, and other implements, and to employ machinery in making innumerable means of comfort and utility. This Faculty enables the farmer, mechanic, and laborer to execute their every stroke with the hammer, saw, axe, scythe, and every other tool used by man; workmen to build houses, manufactories, and floating palaces; mechanics to invent and construct all kinds of labor-saving machinery, with which they make all sorts of fabrics and articles of human comfort and luxury; and even to compel water, wind, and storm to become his workmen. Behold that floating palace! See her plow the mighty deep; perform her prescribed voyages, and even outride those terrific gales! Every breeze, from whatever quarter, propels her only forward! See those countless machines all over the land executing all sorts of labor for human comfort, and doing over *four million* days' work every day, except Sundays and holidays, in Massachusetts alone. Behold the human face divine transferred to canvass and the Daguerrean disk! How useful, how necessary, this mechanical genius in man! And how many and great the enjoyments it creates!

WITHOUT MADE THINGS how much better would man be than beast? A little, but not much. Civilization itself depends more on manufactures than on any thing else, except religion and gallantry. All kinds of work and labor are but its execution. But for it we could never build a house, nor even a rude hut; could not make a rag of clothes, nor a tool, nor any physical convenience of any kind; nor even write, though then we should have nothing to write *on*, or with. Even chewing and swallowing are mechanical executions, and impossible without this Faculty. But for its aid no cat could catch or eat a mouse, or eject its refuse, and the circulation of the blood is effected by means purely mechanical.

ALL KINDS OF PROPERTY become so only through intellectual work bestowed upon it. Raising cotton is a mechanical operation, as is its baling, shipping, cording, spinning, weaving, dyeing, stamping, transporting, cutting out garments, making up and wearing them; and thus of every thing else. Mining iron ore and coal, building and running blast furnaces, making steel, and useful articles out of

it, edge-tools, and using them, even farming, and ten thousand other like things all are perpetually doing, are but its handy work, and impossible without it. Behold, O man, both our dependence on this Faculty, and the perpetual round of enjoyments in forms innumerable it confers on man!

THINGS ARE WORTH much more than they cost. Giles Filley, of St. Louis, a natural mechanic, with a long clear head as well as skilful hand, has mined and carried ore and coal from their native beds to his foundry; invented and put up machinery to smelt iron, and carry it through all its stages till cast into stoves; got up and improved on patterns; hired and paid workmen; built whatever is necessary to a great and first-class stove manufactory; cast, fitted up, sold, and shipped NEARLY ONE MILLION superb stoves, which, all up and down the long arms of that great "Father of waters," are warming and cooking for many millions of human beings, and promoting their comfort, and will continue to do so for ages, all of whom owe Giles Filley a debt of gratitude as great as his stoves are *worth* more than they *cost*, which is considerable. Every workman is a public benefactor, and should so be regarded—not a menial to be despised, but a philanthropist to be *honored*. Artisans are underrated.

ALL INVENTORS of any new labor-saving machine deserve riches and honors to their hearts' content; for as genuine public benefactors they have no superiors, except in those who write and disseminate useful books—the very highest stroke of mental mechanism extant—that of *mind* not matter, for the framing of sentences, and conception and arrangement of ideas as in getting up books and papers, along with their chirography, is an outworking of this Faculty.

A DISTINCT CLASS of the mental operations is thus performed; differing from all others. Of course, they must be executed by some primal mental Faculty and cerebral organ, we very properly christen Construction; though Workativeness would do equally well, as would also Mechanism.

230.—DESCRIPTION, COMBINATIONS, CULTURE, ETC., OF CONSTRUCTION.

LARGE.—Show extraordinary mechanical ingenuity, and a perfect passion for making everything; are able and disposed to tinker, mend, fix up, build, manufacture, employ machinery, etc.; show mechanical skill and dexterity in whatever is done with the hands; with large Imitation, Form, Size, and Locality, have first-rate talents as

an artist, and for drawing, engraving, etc.; and with Color added, are excellent limners; with Beauty, add taste to skill; with large Causality and percepts, add invention to execution, etc.; with large Causality and percepts, Eventuality and Intuition, are inventive; and with large Imitation added, can make after a pattern, and both copy the improvements of others, and supply defects by original inventions, as well as improve on the mechanical contrivances of others; make head save hands of self and others; are a natural boss, and direct work and working men to excellent advantage; with the mental Temperament, and large intellectual organs and Beauty, employ ingenuity in constructing sentences, arranging words, and forming essays, sentences, books, etc.

FULL.—Can, when occasion requires, employ tools and use the hands in making, tinkering, and fixing up, and turn off work with skill, yet have no great natural passion or ability therein; with practice, can be a good workman; without it, would not excel.

AVERAGE.—Are like full, only less gifted in this respect.

MODERATE.—Are rather awkward in the use of tools, and in manual operations of every kind; with large Causality and percepts, show more talent to invent than execute, yet little in either; with the mental Temperament, evince some mental construction, yet not much manual ingenuity, etc.

• SMALL.—Are deficient in the tool-using capability; awkward in making and fixing up things; poor in understanding and managing machinery; take hold of work awkwardly and wrong end first; write poorly, and lack both kinds of construction.

THE ASSIDUOUS CULTIVATION of a Faculty thus useful, is almost as important as civilization itself, in which it plays so leading a part. The idea that only mechanics make any practical use of it, is a great mistake; for every human being uses it, in all to which he puts his hands. All farmers and workers in any and all sorts of manual occupations; all merchants in putting up, taking down, cutting, packing, folding, and wrapping their goods; all who use the pen in making letters and words; all who frame books, essays, paragraphs, or sentences; all who speak in public or converse in private, or even think or feel; all who do anything, in whatever they do, as well as mechanics proper; all mankind, rich and poor, wise and foolish, old and young, require and use this constructing instinct and capability. All should therefore cultivate it—artists, mechanics, operatives, and workers, that they may excel in their respective pursuits, and still

more those who would live by or enjoy their mental powers. Tool using skill is of incalculable value to all, and will enable them to execute many jobs, trifling and important, which they can do for themselves better than any one else can do for them. Exercising it also greatly facilitates that muscular exercise shown so indispensable to health and talents.¹⁴⁸

A GOOD CHIROGRAPHY, a plain, easy, and rapid formation of letters and words, is of great utility in all stations in life, is secured in part by Construction, and should be cultivated by all. To acquire this, drawing should be taught along with writing. Both consist in transferring forms to paper, and greatly aid each other. In fact, reading, writing, and drawing, are virtually one, and should be taught together. On this point, Hon. Horace Mann, State Superintendent of Massachusetts' schools, says, in a report of visits to schools in Europe: "Such excellent handwriting as I saw in the Prussian schools, I never saw before. I can hardly express myself too strongly on this point. In Great Britain, France, or in our own country, I have never seen schools worthy to be compared with theirs, in this respect. This superiority cannot be attributed in any degree to a better manner of holding the pen, for I never saw so great a proportion in any schools where the pen is so awkwardly held. This excellence must be referred in a great degree to the universal practice of drawing contemporaneously with learning to write. I believe a child will learn both to draw and write sooner and with more ease than he will learn writing alone. In the course of my tour, I passed from countries where almost every pupil in the school could draw with ease, and most of them with no inconsiderable degree of beauty and expression, to those where drawing was not practised at all, and came to the conclusion that, with no other guide but the copy-books of the pupils, I could tell whether drawing was taught in school or not.

"DRAWING, OF ITSELF, is an expressive and beautiful language. A few strokes of the pen, or pencil, will often represent to the eye what no amount of words, however well chosen, can communicate. For all master architects, engravers, engineers, pattern-designers, draughtsmen, moulders, machine-builders, and head mechanics, of all kinds, acknowledge that this art is essential and indispensable; but there is no department of business or condition of life where this accomplishment would not be of utility."

TO CULTIVATE.—Try your hand in using tools, and turning off work of any and every kind; if in any writing business, try to write well

and cut flourishes; if a mechanic, do with skill and dexterity what you undertake, etc.; observe and study machinery and inventions, and call out this Faculty in its various phases by *work*.

IN CHILDREN this Faculty is unusually active, and organ large, and should be especially cultivated. Hence their fondness for hammers, nails, knives, and tools. This tool-using propensity should be indulged, and they encouraged to make and use kites, wind-mills, mill-dams, water-wheels, bows and arrows, cross-guns, miniature sleds, boats, railroads, steam-engines, etc. Instead of this, when boys draw pictures on slates, in place of ciphering, they are scolded or chastised, yet they should be encouraged in it. Many could well afford to pay liberally to be able to sketch well.

TO RESTRAIN.—Give yourself more to the exercise of your other Faculties, and less to mechanical inventions and executions; especially attempt no chimerical inventions, perpetual motion, and the like; and spend no more time or money on them than you can spare without inconvenience. Whenever it encroaches unduly on one's time or other duties, exhausts a family support on perpetual motion, inventions, etc., it should be restrained; nor should any make anything not *useful*.

XXIV. BEAUTY, OR "IDEALITY."

231.—ITS DEFINITION, LOCATION, DISCOVERY, RATIONALE, ETC.

THE POET—Taste; refinement; polish; style; finish; purity; neatness; elegance; gentility; exquisiteness; imagination; eloquence; sense of propriety; love of beauty, poetry, flowers, perfection, the fine arts, dress etc.; aspiration after moral elevation, and desire to obviate blemishes, etc. When in excess, it creates extreme fastidiousness and disgust.

ITS LOCATION is in the upper and frontal portion of the temples, just where the head passes from its perpendicular form to its horizontal, and under, and in front of, the edge of the hair. Its prominence presses out the sides of the head, as in Fannie Forester, Washington Irving, Mirabeau, etc., causing smooth hair to wave or bend, as it passes over it.

"ITS AMPLE DEVELOPMENT causes a prominence on each side of the head, commencing about half the height of the forehead, above the temples, extending obliquely from below upwards, and from before backwards, about two inches; giving so singular a form to this part of the head, that painters and sculptors rarely present them fully. The poets of all ages have this organ large, as in Pindar, Euripides,

BEAUTY VERY LARGE.



No. 160.—WASHINGTON IRVING.

Sophocles, Heraclides, Plautus, Terence, Virgil, Tibullus, Ovid, Juvenal, Horace, Boccaccio, Ariosto, Aretin, Tasso, Milton, Boileau, Rousseau, Pope, Young, Gresset, Voltaire, Gesner, Klopstock, Wieland, Andrieux, Lemercier, Dupaty, etc."

"HOMER'S HEAD shows two extraordinary prominences in its superior lateral parts, which must strike all. Why should 'the father of poetry have this form?'"

"The first poet whose form of head struck me, was one of my friends, ordinary in other respects, who often composed verses extempore. His forehead, immediately above the nose, rose perpendicularly, then retreated, and extended itself much laterally, as if a portion had been super-added to each side. I remembered having observed the same form of head in the bust of Ovid. Though all poets had not this form of forehead, yet all had these lateral prominences. Nicolai, of Berlin, invited Spurzheim and myself to see his collection of thirty busts of poets, in all of whom this region was more or less prominent, according to the talents of each. All subsequent observations confirm this organ. There never has existed, or will exist, a poet without this development large."—*Gall.*

"A POETIC TURN OF MIND results from a peculiar mode of feeling. Vividness, glow, exaltation, imagination, inspiration, rapture, exaggeration, and warmth of expression, are requisite for poetry. Poets depict a fictitious and imaginary world. This Faculty gives glow to the other Faculties; impresses the poetical and ideal; aspires to imaginary perfection in every thing; creates enthusiasm in friendship, virtue, painting, music, etc.; produces sentimentality, and leads to delicacy and susceptibility. It often acts with Spirituality, located

adjoining it, in embellishing poetry with the mysterious and supernatural. Practical exaltation varies with this organ."—*Spurzheim*.

"TELL DR. GALL, I have a mask of Tasso, taken from nature; and its lateral breadth at the organ of poetry is enormous."—*Brayer*.

"This Faculty loves exquisiteness, perfection, and the beau-ideal; gives inspiration to the poet; stimulates these Faculties which form ideas to create perfect scenes; inspires man with a ceaseless love of improvement, and prompts him to form and realize splendid conceptions; imparts an elevated strain to language, and shows a splendor of eloquence and poetic feeling; and gives to conversation a fascinating sprightliness and buoyancy—the opposite of dryness and dulness."—*Combe*.

POETRY, the first name given by Gall to this Faculty, is correct, for it constitutes the soul of poetry, but is too restricted, for it is quite as constituent a part of oratory, as poetry, and of painting as either; whilst most of those in whom it is large never manifest it in either; but do in exquisite taste, and a passionate love of the beautiful wherever found, as in refined ladies. Spurzheim's name, Ideality, is also quite too limited, as referring only to the imaginary and fanciful. Its primal office is love of beauty in Nature, poetry, eloquence, conversation, manners, art, music, mechanics, flowers, and wherever found; and I have changed its name accordingly. Taste would express it, yet is applied also to food.

ITS ADAPTATION is to the beautiful and perfect in Nature. This element forms as integral an attribute of things as does gravity. Whatever is, is beautiful. All Nature is one grand galaxy of beauty and glory. Perfection of structure, function, and adaptation characterizes all her works—meandering streams the blossoms of spring; the harvests and glories of summer, and the beautiful and delicious fruits and luxuries of autumn; the rising, mid-day, and setting sun, tinged with the mellow hues of departing day; the silvery moon, flower-spangled lawns and prairies, and star spangled skies, and all the works of Nature, are redolent with beauty, and all aglow with divine perfection. Animated Nature, beautiful birds, mottled and perfectly formed beasts, are still more beautiful; whilst man is the most inimitably beautiful of all; except that his "better half" is by far its most surpassingly and overpoweringly beautiful object lighted up by the god of day. Behold man's majestic form, and woman's angelic mien, both glowing with health, and irradiated by emotions far more exquisitely beautiful than his physique.

THE HUMAN SOUL, however, caps this climax of all terrestrial perfection! How infinitely beautiful and exquisitely wrought is the entire Nature of man!

SOME PRIMARY FACULTY must needs connect and relate man to this inherent element of Nature, else it must forever remain a sealed book, a perfect blank, to all mankind forever; as are colors to the blind. Without it, no son or daughter of humanity could possibly ever have perceived its existence, or revelled in its delightful contemplation, or hungered and thirsted after self-improvement, or longed for perfection of character, or purity and moral elevation of sentiment. But infinite thanks, that the Giver of all good has both arrayed all Nature in one grand halo of exquisite glory, and then implanted in the human soul this Faculty to perceive, enjoy, and cultivate this purifying and exalting sentiment; and unspeakable are its pleasures and benefits. It purifies, refines, and elevates the entire character, with all its manifestations; longs after perfection, physical, intellectual, and moral; loathes sin, and eschews the polluting and corrupting touch of depravity because so vulgar and debasing.

ITS LOCATION on the borders of the moral group denotes its highly moralizing influence on character and conduct. Gross criminals rarely have it. It chastens and polishes Force and all the passions; putting Love upon its proprieties, and elevating and sanctifying it; renders debaters polished, and genteel, even though caustic; whilst one without it comes out on his opponent roughshod, grating, denouncing, and harsh or else in vulgar tirades, and thus of all the other Faculties. Indeed, its influence in promoting virtue is scarcely excelled by any other Faculty.

232.—DESCRIPTION, CULTIVATION, AND RESTRAINT OF BEAUTY.

LARGE.—Have the highest order of taste and refinement; love the exquisite and perfect beyond expression, and are correspondingly dissatisfied with the imperfect, especially in self; admire beauty in bird and insect, flower and fruit, animal and man, the physical and mental; are perfectly enraptured with the impassioned, oratorical, and poetical in speech and action, in Nature and art, and live much in an ideal world; have a most glowing and vivid imagination, and give a delicate finish to every act and word, thought and feeling, and find few things to come up to this exalted standard of taste; appreciate and enjoy beauty and perfection wherever found, especially in Nature; give grace, purity, and propriety to expression and conduct, gracefulness and polish to manners, and general good taste to all said and done; are pure-minded; enjoy the ecstatic in poetry and romance; with only average Causality, have more taste than solidity of mind.

and character, and more exquisiteness than sense ; but with large reflectives, add the highest artistical style of expression to the highest conceptions of reason, and with organic quality large, are always and involuntarily eloquent ; desire to perfect character, and obviate blemishes, and with Conscience large, moral imperfection ; with large social organs, evince a nice sense of propriety in friendly intercourse, and eat in a becoming and genteel manner ; with large moral organs, appreciate perfection of character, or moral beauties and excellences most ; with large reflectives, add a high order of sense and strength of mind, love beauty and perfection of character ; with large perceptives, are gifted with a talent for the study of Nature, etc. It is to man what their beauty is to flowers, and the perfection of anything is to the thing itself, and adds a charm, an exquisite finish to the entire man ; “finishes off” its possessor, and completes and perfects humanity ; smooths down the rugged points of character, and beautifies and adorns all he does and says. To consistency of opinion, and harmony and propriety of conduct, it is indispensable. It gives general propriety, perfection, correctness, and naturalness, to all the feelings, actions, opinions, and mentalities.

FULL.—Evince a good share of taste and refinement, yet not a high order of them, except in those things in which it has been vigorously cultivated ; with large Expression, Eventuality, and Comparison, may compose with elegance, and speak with some eloquence, yet will have more force of thought than beauty of diction ; with large Construction, will use tools with fair taste, yet more skill ; with large Force and Destruction, show general refinement, except when provoked, but are then grating and harsh ; with large moral organs, evince more moral beauty and harmony than personal neatness ; with large intellectual organs, possess more beauty of mind than regard for looks and outside appearances, and prefer the sensible to the elegant and nice, etc.

AVERAGE.—Prefer the plain and substantial to the ornamental, and are utilitarian ; with large intellectual organs, prefer sound, solid matter to the ornaments of style, and appreciate logic more than eloquence ; with Kindness and Friendship large, are hospitable, and evince true cordiality, yet care nothing for ceremony ; with Ambition large, may try to be polite, but make an awkward attempt, and are rather deficient in taste and elegance ; with Construction large, make things solid and serviceable, but do not polish them off ; with Expression large, talk directly to the purpose, without paying much attention to expression, etc.

MODERATE.—Rather lack taste in manners and expression ; have but little of the sentimental or finished ; should cultivate harmony and perfection of character, and endeavor to polish up ; with strong propensities, evince them in rather a coarse and gross manner ; are more liable to their perverted action than when this organ is large, and are homespun in everything.

SMALL.—Show a marked deficiency in whatever appertains to taste and style, also to beauty and sentiment, and are almost destitute of taste.

SINCE BEAUTY CHASTENS and purifies the entire man and woman, and refines the mind and manners, and thereby both constitutes a most important moralizer of earth, and even a preparation for the purity and glory of Heaven, let all set at once about its improvement. To enlarge it, we must feed it ; and to feed it, we must contemplate beauty, the beauties of Nature in particular, because those of art are infinitely inferior to those made by God. Let us give a few moments, as the glorious sun is rising upon the world, to that reverie of this Faculty which his approach naturally inspires. Let us, as he sinks to rest, suspend our temporal avocations, to cherish this divine sentiment. Let us study botany, and often admire those beautifully painted flowers which "Solomon in all his glory" could not equal ; seek yonder eminence in order to drink in the glorious scenery below and around ; admire beautiful birds, decked in golden plumage ; observe the gorgeous rainbow ; and, above all, cultivate the society of those who are endowed with this sentiment, as well as avoid the company of the coarse and vulgar. We should also read books the style of which is finished and sentiments elevated, especially good poetry ; cultivate a taste for the fine arts ; practise personal neatness and elegance ; keep coat, hat, and boots well brushed and blacked, and head and person tidy ; express ourselves with beauty in conversation ; and perpetually imbibe and admire this sentiment from Nature's inexhaustible stores of beauty and perfection.

STUDYING AND ADMIRING NATURE more than anything else chastens the grosser manifestations of the passions, and elevates the soul. How perfect, beautiful, exquisite is she throughout ! And yet her beauties are comparatively a sealed book to the most of her children, because they have no eyes to read, no time to contemplate them. Above all, the society of refined and pure-minded woman, beautiful in form, charming in manner, and accomplished in conversation, is calculated to excite and develop this purifying Faculty.

CULTIVATING MORAL PERFECTION should constitute the great object of all our self-perfecting efforts. We should strive to obviate every imperfection, every flaw in our characters and conduct, and labor with all our powers to develop by culture the inimitable beauties and perfections of human nature in general, and our own in particular.

CULTIVATE BEAUTY IN CHILDREN by never allowing them to go shabbily clad, but keep them as nice and clean as may be. Call their attention frequently to the beauties of Nature, and discourage all kinds of coarseness and vulgarity ; but encourage gentility and refinement. Keep them as near to Nature and as far from artificiality and affectation as possible. "Walk proper, I tell you," said a girl to her junior, little realizing that she walked the prettiest when she tried to the least. They should walk, play, run, talk, everything without any attempt at gentility. Enamor them of natural beauty in place of artificial. Natural speakers are far more impressive than artificial and affected.

ITS DUE REGULATION becomes often necessary whenever it is perverted. Few faculties require right direction more. That most pernicious passion for novel-reading, which diseases the tastes and perverts the feelings of so many youths, springs partly from abnormal Beauty. Against such reading, Phrenology loudly protests. Their characters are not natural, but distorted. They do not teach human nature a tithe as well as observation of men and things, or the study of Phrenology. Above all, they unduly excite and pervert the social affections, and kindle fires of love which should be allowed to slumber till preparation for their legitimate exercise in marriage is made. Youth, especially those of warm feelings and ardent imaginations, are warned against this nerve-destroying and passion-perverting practice. To young females it is especially injurious. Besides, these love-stories are not exactly proper subjects with which to imbue their minds.

SUBSTITUTING ARTIFICIAL beauty for natural, is another great perversion of this Faculty. Art may be beautiful as far as she imitates Nature, which is not far, yet, in general, artificial beauty falls infinitely below natural, and many things in art called beautiful are most deformed—a fashionably attired, and especially corseted, padded, and painted female, for example. Art is beautiful only when, and as far as, she follows Nature ; but the fashions depart woefully from this standard, and are therefore palpable violations of this law of taste.

FASHIONABLE ATTIRE is exceedingly liable to beget artificial manners, and thus render its would-be-exquisites most awkward and

ridiculous in their carriage and style of conversation. Dancing-school manners are especially exposed to this censure. Since Nature is taste personified, those who follow her will always be in good taste.

TO RESTRAIN.—Remember that in you the ideal and imaginative exceed the practical; that your building airy castles out of bubbles, prevents your building substantial structures, and attaining useful life ends; that you are too symbolical, fastidious, and ornamental, too much tormented by spots and wrinkles, too apt to discard things that are almost perfect, because not *quite* so, and hold in check the revellings of ideality, and learn to prize what is right, instead of discarding the greater good because of minor faults. Especially do not refuse to associate with others because they are not in all particulars just to your fastidious tastes.

TO CULTIVATE.—Avoid *all disgusting and filthy habits*, such as swearing, chewing and smoking tobacco,¹²⁶ drinking stimulants,¹²³ slang phrases, and coarse common expressions, and practise good breeding toward all. Begin to refine yourself at the beginning, the fountain, the mind. First make the *tree* beautiful and good; then shall all it bears be good also. External polish is of little account, without internal; which is impossible while any filthy personal habit is indulged. Chewing, smoking and spitting tobacco, defiles also the *inner* man, and thereby the outer. Any defilement defiles all; any refinement refines all. Next, dress and appear in good taste, and cultivate personal neatness, good behavior, refinement and style in manners, purity in feeling, the poetical and sentimental, the elegant and classical style of conversation, expression, and writing, and love of the fine arts and beautiful forms; of the beauties of Nature, of sunrise, sunset, mountain, lawn, river, scenery, beautiful birds, fruits, flowers, mechanical fabrics, and productions,—in short, the beautiful and perfect in Nature in general, and yourself in particular.

XXV. SUBLIMITY.

233.—ITS LOCATION, ANALYSIS, CULTIVATION, AND RESTRAINT.

INFINITUDE—Grandeur; majesty; splendor; vastness; perception and love of the grand, vast, illimitable, omnipotent, eternal, and infinite.

ITS LOCATION is as directly behind Beauty, as if it were its posterior continuation, and of course, just where the head rounds from its perpendicular to its horizontal form at the middle of the head, and in front of Caution; that is, between Beauty before, Caution behind,

Hope above, and Secrecy below. Earlier Phrenologists confounded it in both location and function with Beauty.

ITS ADAPTATION is to that infinitude which characterizes every work of the Almighty. Thus boundlessness is an attribute of space or Locality,²⁷⁰ eternity of Time;²⁷⁵ infinitude of Number, as in the number of sands on the sea shore; particles of matter; number of the leaves, insects, etc.; the common house fly numbering but one species in some fifty thousand, yet what an infinite number of them have existed, and will exist throughout the earth's history; the countless number of the stars; the omnipotent power of causation, and like illustrations innumerable. To what in Nature does this attribute not appertain? In short, every species of science, every department of Nature, is "without a bottom or a shore." To this infinitude of the Almighty and his works, Sublimity, a more appropriate name for which would be Infinitude, is adapted, and adapts man. And certainly its exercise, beside filling the soul with most delightful emotions, imparts an expansiveness of views, a grandeur of conception, a range and sweep of idea, a compass and volume to thought and expression, without which no adequate conception of truth, Nature, or God, can be formed. Its difference from Beauty is marked and palpable. Here is a distinct element of Nature, which all are conscious of recognizing, appreciating, and enjoying.

A MENTAL FACULTY must needs put man in relation with this natural institute; and this distinct class of functions must have its cerebral organ.

LARGE.—Are filled with sublime emotions on beholding rugged, towering mountains, foaming, dashing, roaring cataracts, a storm at sea, lightning's vivid flash, accompanied by loud peals of thunder, the commotion of the elements, the star-spangled canopy of heaven, or any other manifestation of Almighty power; have a literal passion for wild mountain scenery, and the romantic, boundless, endless, infinite, eternal, and stupendous, as well as of the overpowering; appreciate and admire the grand, sublime, vast, and magnificent in Nature and art; and enjoy exceedingly mountain scenery, tempests, vast prospects, whatever is awful and magnificent, the commotion of the elements, the star-spangled canopy of heaven, and all manifestations of infinitude, and omnipotence; with larger Worship, adore the omnipotence, eternity, infinity, etc., of the Deity, and His attributes and works; and with large Time added, have unspeakably grand conceptions of infinitude as applicable to eternity, past and future; with

large intellectual organs, take a comprehensive view of subjects, and give illimitable scope to all mental investigations and conceptions, so that they can be carried out to any extent; and with Beauty large, add the beautiful and perfect to the sublime and infinite.

FULL.—Enjoy grandeur, sublimity, and infinitude well, and impart much of this element to thoughts, emotions, and expressions, and evince the same qualities as Large, only in a less degree.

AVERAGE.—Possess considerable of this element when it is powerfully excited, yet, under ordinary circumstances, manifest only an ordinary share of it.

MODERATE.—Are rather deficient in conception and appreciation of the illimitable and infinite; and with Worship moderate, fail to appreciate this element in Nature and her Author.

SMALL.—Show a marked deficiency in this respect, and should earnestly cultivate it, because almost destitute of sublime emotions.

TO CULTIVATE.—Mount the lofty summit and contemplate the outstretched landscape; admire the grand and stupendous in towering mountain, rolling cloud, rushing wind and storm, loud thunder, majestic river, raging sea, roaring cataract, burning volcano, and the boundless, infinite, and eternal in Nature and her Author.

ITS RESTRAINT is rarely necessary, because it is less perverted than most of the other Faculties. Yet it sometimes renders the style of speaking and writing rather sophomorical by employing too much hyperbole, and using too many extravagant and rather bombastic words and expressions, which young speakers and authors sometimes require to restrain, or at least to chasten.

XXVI. IMITATION.

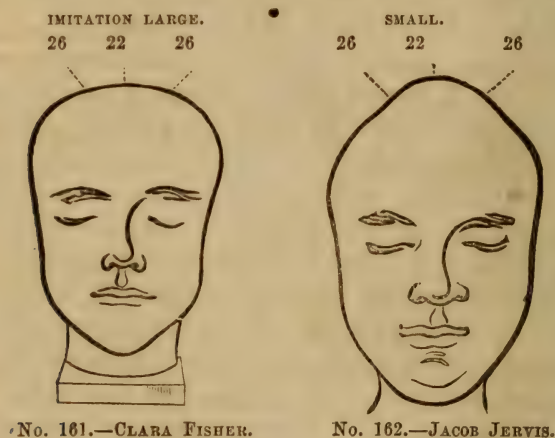
234.—ITS DEFINITION, POSITION, ADAPTATION, ETC.

THE MIMIC. Theatrical talent; expressiveness; conformity; desire and ability to copy, pattern after, imitate, do what we see done, make and become like, mock, act out, etc.

ITS LOCATION is on the two sides of the back part of Kindness, and lying nearly at right angles to it; under the back part of the frontal lobe, and runs downwards toward Construction, and is in front of Spirituality. It lies near Construction, so that the two can work together in making things just like their pattern, and therefore like each other.

THESE RULES will find it when it is large. 1. Standing at the

side of the person observed, and bracing the head with the left hand, spread the right hand thumb and second finger two inches apart, press them upon the scalp, and drawing them up and down on each side of Kindness, you cross this organ, and if it is large, you cross the ridge it creates. 2. Standing either before or behind the one observed, and putting the fingers of both hands side by side, press them snugly upon the head, letting the ends of the longest fingers come as far forward or backwards as the middle of the head, the balls of your fingers will be on this organ and cross it. It renders the head square and broad on top, as in the accompanying engraving of Clara Fisher, in whom Beauty is also large. It is deficient in Jacob Jarvis, but



No. 161.—CLARA FISHER.

No. 162.—JACOB JERVIS.

Kindness is large. It is almost always large in children of all ages; so that, from being easily found on their heads, its location can be easily deciphered.

"Its developments are not always alike. In most cases it forms a prominence shaped like the segment of a sphere, a little higher than Kindness, yet sometimes it extends from before *backwards*, running along *side* of Kindness."

"One of my friends assured me that the form of his own head was peculiar, and directed my hand to the anterior superior part of his head, which I found bulging, and behind on each side was a cavity descending towards the ear. He had a peculiar talent for imitating the gait, gestures, sounds of the voice, etc., so that the persons imitated were immediately recognized. I hastened to the deaf and dumb asylum to examine the head of Casteigner, who had fixed our attention from the first by his prodigious talent for mimicking perfectly the gait, gestures, etc., of the director, physician, surgeon, women, etc., which amused the more, as his education had been absolutely ne-

glected. To my great astonishment I found this organ as prominent as in my friend. I sought opportunities for multiplying my observations, visited families and schools, examined those noted for this talent; found it the larger or smaller as persons were more or less gifted in mimicry; procured the skull of Junger the poet and comedian; found it large in a thief who had belonged to a strolling company of actors; and have so greatly multiplied observations that I feel justified in maintaining that the talent for personifying others is a fundamental Faculty, and has its particular organ. It undoubtedly aids the poet, especially dramatic. It is of great use in oratory, by giving appropriate gestures, and especially in painters and artists. Some simpletons and madmen have astonishing powers of mimicry, and most great actors were bred to other avocations, but were irresistibly drawn to acting."—*Gall*.

"A LADY in whom it is large has a strong tendency to imitate every sound she hears, crow when she hears the cock crow; and one day, while reading, when the growl of distant thunder reached her ear, she unconsciously imitated it. It represents all the other Faculties, and gives power of expression."—*Combe*.

"It is remarkable that the anterior, lateral, and upper region of the brain should give a talent for amusements and theatrical performances."—*Spurzheim*.

THE MOCKING POWER of some birds, the mockingbird, for example, is really wonderful. I have owned two, who instantly mocked any new notes the moment they heard them, and ran over all the notes of all the birds they ever heard. One croaks like crows, screams like hawks, crows like roosters, imitates all the notes of all the birds to perfection, whistles like a man, calls the dog so naturally that he comes for it, peeps like a chicken, imitates a bugle he heard played in Canada, and astonishes me daily by his mocking versatility. Stopping at the Astor House, for he travels everywhere with me, he heard the shrill whistle used to start the cars, when after a sharp listen, he imitated it to a dot, and still keeps it up. Hearing a loon halloo, he followed suit, and mocks whip-poor-wills to perfection. Mockingbirds are the prince of all songsters, and worthy of being extensively kept in families. Parrots are also great mimics.

THE ADAPTATION of this Faculty is to man's need of conforming to one another, by all expressing the same things by the same sounds and actions. That would be a motley and most ungainly crowd all of whom dressed and acted differently from all others. We recognize the necessity of conformity in war by dressing all of any regiment alike. In what do speaking and writing consist but in patterning after others in making the sounds of the one, and letters of the other? All who mean "no" or "yes," express it by imitating the same

sounds or letters ; otherwise who could understand any body else, or be understood by them ! Indeed what is learning to talk or write but learning to *imitate* ?

IN CHILDREN it is always very large, and all they learn and do involves it. They learn from example much more than precept, because of its instinctive activity. They learn to talk the language they hear talked, and form letters and words as others form them. In fact, education is mainly imitation. How benevolent a provision that this instinct should be thus extra powerful at that life period when it is most needed ! Then be careful, ye elders whom they involuntarily imitate, what example you set them, and set only those following which will benefit them. Every smoker and chewer sets a bad and baleful public and private example.

EVEN FRUITS, vegetables, and all that grows evince this element in all conforming to one general model. Thus all Danvers winter sweet apples pattern after each other in all having a form, color, flavor, etc., like all the others, even down to a dark line through their stem end. All fruits, grains, grasses, whatever grows, can be easily recognized because it *looks* so exactly like all others of that kind.

THIS ATTRIBUTE of Nature must of necessity have its specific Faculty in man, which puts both into mutual relationship. Man must needs have a conforming, imitating instinct ; and has it. In many it is really resistless. They cannot well help copying about all they see ; and all men do involuntarily pattern after each other unconsciously. Many are drawn to the stage by an attractive force they are not able to resist. Theatrical representations inhere in man, and can be turned to the best practical account by way of enforcing various moralizing lessons, giving warnings, and setting examples. Those who preach against theatres "know not what they do." Till preaching can weed out of the soul of man a powerful impulse God implants there, men will continue to patronize the stage. All needed is to sanctify and properly *direct* its representations, not try to crush them out. As far as good people think them defective let them *rectify* their faults, not try to exterminate them ; which is as futile as to try to exterminate the winds. Get up and patronize such theatres as you would have, and point out a better way, not bark at all theatricals. Even make them a part of your religion ; for behold this organ located right *among the moral organs*, and by the side of Kindness, Worship, Spirituality, and Beauty, and learn from this fact that it can be made one of the greatest of human moralizers. And let private

families seek evening amusements by home representations of all kinds. Here is a primitive mental Faculty. Let it be exercised. We should, as we can, turn it to great practical advantage in enforcing morals, instead of allowing it to remain as at present. It must live as long as man exists, because it is founded in a natural element of the human mind. Destroyed it can never be, any more than hunger, or any other natural or legitimate product of any other Faculty. All that remains is to sanctify, and rightly wield its mighty power for good.

TO DO LIKE others, in short, is just as natural as breathing. But for this copying instinct, we could neither talk nor write, both of which consist in *imitating* one common mode of articulating and forming letters and words; and all learn to speak their mother-tongue, whether English or Arabic, Chinese or Indian, because they copy their manner of speaking from those around them. We also copy mechanical and other inventions, and thus all discoveries and improvements become disseminated and perpetuated illimitably; whereas, but for this Faculty, all new inventions, however useful, would be confined to, and die with, their authors, and human advancement be precluded. But for this Faculty, every human being would be obliged to originate everything he did, and his mode of doing it, in business, science, mechanics, and even all the trifling affairs of life. Indeed, how could man exist, what could he do or become, without it? We also copy opinions and practices, and maintain a general conformity to each other, every way conducive to human happiness.

235.—DESCRIPTION, CULTIVATION, AND RESTRAINT OF IMITATION.

LARGE.—Can mimic, act out, and pattern after almost anything; have a great propensity and ability to copy and take pattern from others, and do what is seen done; describe and act out well; with large Mirth, relate anecdotes to the very life; have a theatrical taste and talent; gesticulate almost constantly while speaking; and with large Expression, impart an uncommon amount of *expression* to countenance, and everything said; with large Observation, Eventuality, Expression, Comparison, and Beauty, can make a splendid speaker; and with large Mirth, and full Secretion added, can keep others in a roar of laughter, yet appear serious; with an uneven head, are droll and humorous in the extreme; with large Ambition, delight in being the sport-maker at parties, etc., and excel therein; with large Construction, Form, Size, Locality, and Comparison, full Color, and

a good Temperament, and a full-sized brain, can make a very superior artist of almost any kind; but with Color small, can engrave, draw, carve, model, etc., better than paint; with large Language, gesticulate much; with large preceptives, require to be shown but once; with large Construction, easily learn to use tools, and to make things as others make them; and with small Continuity added, are a jack-at-all-trades, but thorough in none; begin many things, but fail to finish; with large Causality, perceptive, and an active Temperament added, may make inventions, or improvements, but never dwell on one till it is complete, or are always adding to them; with large Ambition, copy after renowned men; with large Friendship, take pattern from friends; with large Expression, imitate the style and mode of expression of others; with large Mirth and full Secretion, create laughter by taking off the oddities of people; with large Form, Size, and Construction, copy shape and proportions; with large Color, imitate colors, and thus of all the other Faculties.

FULL.—Copy quite well, yet not remarkably so; with large Causality, had rather invent a new way of doing things than copy the ordinary mode, and evince considerable imitating talent when this Faculty works with large organs, yet but little otherwise.

AVERAGE.—Can copy tolerably well when this Faculty is strongly excited, yet are not a natural mimic, nor a copyist; with only full Construction, evince little manual dexterity; yet with large Causality, can originate quite well, and show no great disposition or ability to copy either the excellences or deficiencies of others, but prefer to be original.

MODERATE.—Have little inclination to do what and as others do; but with large Causality, prefer to strike out a new course, and invent an original plan; with large Dignity added, have an excellent conceit of that plan; but if Causality is only fair, are full of original devices, yet they do not amount to much.

SMALL.—Copy even commonplace matter with extreme difficulty and reluctance, and generally do everything in their own way; possess scarcely any, and manifest no disposition or ability to copy anything, not even enough to learn to talk well.

TO CULTIVATE.—Practise copying from others in manners, expressions, sentiments, ideas, opinions, everything, and try your hand at drawing, and in every species of copying and imitation, as well as conforming to those around you; that is, try to become what they are, and do what and as they do.

TO RESTRAIN.—Maintain more your own personality in thought, doctrine, character, everything, and be less a parrot and echo, and cultivate the original and inventive in everything.

WE SHOULD ASSIDUOUSLY CULTIVATE a Faculty thus promotive of personal and general progression and enjoyment. This can be done only by its habitual exercise. We should therefore imitate whatever in others will make us better. But mark: This Faculty is located, not among the propensities, but between the intellectual organs before, the moral behind, and Construction below, so that we should never copy the vices of men, but only mechanical and other improvements, correct opinions, and above all, their *moral virtues*. All their valuable adaptations of ways and means to ends, which are many, as well as all their correct intellectual conclusions, the juxtaposition of Imitation and Causality requires us to adopt. This proximity of Construction and Imitation facilitates our copying all inventions and improvements, in making and using tools, machinery, and the like, and in all the arts and sciences. The location of Beauty by Imitation disposes us to copy all matters of taste, in manners, expression, refinements, the fine arts, etc.; and the near residence of the moral organs enjoins on us to copy whatever of goodness and moral excellence we find among men; yet none can be too careful what they copy.

IN CHILDREN this organ is especially large, and hence they copy almost everything they do and become from those around them. But for this, their progress would be very slow, and their conformity to persons and things slight; yet with this Faculty thus spontaneously active, how soon they learn to talk, and be as others do and are. It is really astonishing how quickly and correctly they adopt the manner and everything of those around them.

ADULTS SHOULD BE CAREFUL what practical copies we set them. "EXAMPLES go farther than precepts." They do not do or become what they are told to, but what they *see* others do. Scold *them*, and they will scold one another. Be mild and sweet, and they will pattern after your amiableness. Swear in their hearing, and they will swear, not so much because they feel wrathful, as because, monkey-like, they do what you do. So of smoking, and a thousand other pernicious habits. Express yourself well or ill in conversation, and they will imitate you. And thus of everything you say, do, and are. Therefore

PARENTS SHOULD BE what they would have their children become. Rely not on what you command them to do, but on what you *your-*

selves are. Your *actions* speak a thousand times louder than words. An accurate observer can soon tell, on seeing any family of children, how the parents conduct. The former are but images of the latter, reflected in this mirror of Imitation. A single bad example will neutralize a thousand wholesome precepts. Hence the rapidity with which vices spread among youth as well as adults. Parents, be entreated to mark and practise a principle thus vitally important. First set about the correction of your *own* faults, and the cultivation of your own virtues, and without saying a single word to them, you will render them like yourself. Never mind their faults, which are inherited or copied from you. Say nothing, but set them right *examples*, and you will be surprised how sudden, and how great a change this will produce. "Whatsoever ye would that they should do unto others, do ye even so unto them."

NEVER PUNISH them for doing what they see you do. Yet how often is this outrage on their nature perpetrated! You wash your hands or clothes, and your children follow in your footsteps. You keep doing, yet tell them to stop; but they keep on, and you punish. For what? Simply because they yielded obedience to this powerful imitative propensity of their natures. And thus of a thousand other things in life equally innocent. As though this propensity were wrong! What would they be without it? Chastise yourself for *setting* the example, not them for spontaneously following it. For nothing, however bad, which a child patterns after, should it ever be punished. All you need to do is to correct the examples set them. They say and do many wrong things, just as parrots say "Pretty Polly," and mean no more by it; and many of the smart things they do and speak-words they use are simply copies made by them, not signs of any extra genius. They would be simple indeed if they could not at least imitate.

RIGHTLY EXERCISING this Faculty, therefore, becomes a most important matter, both in forming our own characters, and those of our children. If we would adopt a good style of delivery, we must listen to and copy good speakers, and thus of writing, manners, and almost all we do and say. Yet we cannot be too careful not to copy their faults along with their excellences; because we naturally imitate those we admire, and their blemishes as well as beauties. In nothing are nice discriminations more requisite, and accordingly Comparison is located close to Imitation. This organ imparts that *action* to speakers which Demosthenes pronounced the first, second, and third element of

oratory. It also gives expression, or suits actions to words. In both these respects, pattern after none but good speakers, and then only their excellences. Thus of style. One of the ancient authors copied Herodotus many times over, in order to acquire his style. Viewed in this light of setting examples, which the masses so naturally follow, how responsible is the station of public men! I often tremble, as I write and lecture, lest my faults as well as excellences might be copied, and therefore put you, reader, on your guard. And let us all pattern after GOOD men and women. As the moral virtues constitute the highest order of human excellence and endowment,¹⁹⁶ let us copy them wherever we find them. Yet those fashionable and aristocratical grandees, who assume to lead the public mind, are of all others the last we should follow. No young person can be too careful *whom and what* they imitate.

MIRTH AND REASON LARGE.



No. 163.—JOSEPH C. NEIL.

XXVII. MIRTH, OR "MIRTHFULNESS;"

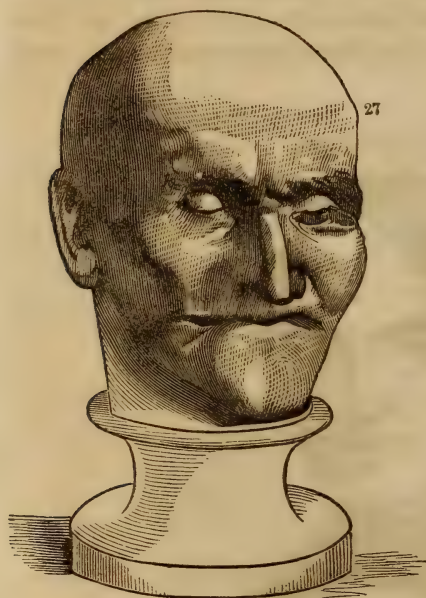
236.—ITS DEFINITION, LOCATION, ADAPTATION, ETC.

THE LAUGHER—Humor; irony; facetiousness; jesting; wit; satire; ridicule; raillery; love of fun; intuitive perception of the ludicrous; disposition and ability to joke, "poke fun," laugh at

and ridicule what is absurd, improper, ill-timed, unbecoming, etc. When perverted, it ridicules on solemn occasions, and laughs improperly.

ITS LOCATION is in the upper and lateral part of the forehead, to which, when large, it gives a square and prominent shape, as in the Revs. Dr. Peters, whose joking propensities tormented his Conscience perpetually, and Henry Ward Beecher, whose witticisms are proverbial; in Joseph C. Neil, the witty author of "Charcoal Sketches," and other like productions; and in the terribly sarcastic Voltaire. It lies

MIRTH VERY LARGE.



No. 164.—REV. DR. PETERS, A VERY WITTY AND TALENTED DIVINE.

externally of Causality, in front of Beauty, and above Music. We shall give a specific rule for finding it hereafter.

"In all persons I have examined, eminently endowed with this Faculty, I have found the anterior superior lateral parts of the forehead considerably prominent in a segment of a sphere. It carries with it an irresistible propensity to ridicule everything, sparing neither friend nor foe, its possessors even launching their satire at themselves. Aristophanes was so bitter that he did not spare his own family, and ridiculed even Socrates. Henry IV. has been reproached for jesting and gaiety even in battle, and the untimely sallies of his lively mind. Diogenes amused him-

self with all the folies of his age. Cicero had an extreme inclination to raillery, as had Horace and Juvenal; and this organ is large in all of them. There is no longer any doubt that this talent is indicated by this organism."—*Gall.*

"PIRON was a machine for sallies, epigrams, and flashes of wit, which were entangled with each other in his head, and came out involuntarily, so that he could no more avoid *bon mots* and witticisms by the dozen than breathing."—*Grimm.*

"Those who write like Voltaire, Rabelais, Piron, Sterne, Rabener, Wieland, and all who are fond of jest, raillery, ridicule, irony, and comical conceptions, have the upper and outer parts of the forehead immediately before Beauty of considerable size."—*Spurzheim.*

"I have found in the manifestations of those whose Wit predominates over Causality a striking love of the purely ludicrous; their great delight being to heap absurd and incongruous ideas together; extract laughter out of every object; and enjoy the mirth their sallies created; and therefore agree with Spurzheim that the sentiment of the ludicrous, is its primitive function."—*Combe*.

GALL included this Faculty in Causality, as one of its modes of action, while Spurzheim and Combe differ from him, not at all in its function or location, but only as to its metaphysical analysis; all of whose views seem to me are analyzed by that simple principle of its adaptation or rationale we now propound, namely, that—

ALL ABNORMAL ACTION IS RIDICULOUS. Or thus: All our Faculties are constituted to act in a specific manner prescribed by, and

VERY LARGE.



No. 165.—LAURENCE STERNE.

SMALL.



No. 166.—INDIAN CHIEF.

consistent with, their nature; all departures from which are inherently absurd and ridiculous. Thus Parental Love has own children for its natural object,¹⁷⁶ but when a married woman who can have own children to caress will not, and expends on a lap-dog her gushing maternal affections, carrying it in her arms, pressing it to her bosom, kissing, fondling, blanketing, babying, and loving it to death; or when, as lately, a maiden lady takes her bantam chickens to bed with her, leaves property to them, and grieves inconsolably when one dies, this wrong use of this parental sentiment becomes ridiculous. Probably no one ever yet saw a stylish lady taking her nobbiest rides, parading, fondling, and folding her lap-dog in her arms, who did not "laugh in their sleeves," and wonder "why don't she have a *baby* to pet, since she wants to baby something so much."

LOVE should be exercised between two of similar ages : hence to see a grey-haired old man bowing, smirking, courting, and playing the agreeable to an unresponsive young girl, is supremely ridiculous ; as is neglecting a wife for a belle. Nothing is less ridiculous than two refined, sincere, genuine lovers making love properly, yet what is more "laughable" than seeing two excessively familiar and amorous "before folks," yet not delicate or refined in its expression. We ridicule a man who keeps on courting a woman who perpetually repulses and slights him, because mutuality is one of the laws of love, his breach of which subjects him to ridicule.

ALL EXTREMENESS OF FASHION, to my eye, is inherently absurd. An excessively dressed woman, with a sweeping trail in everybody's way, with a low neck to show her natural *deficiencies*, a wasp-like waist, with immense paniers, painted and pencilled besides ; with a bushel of false hair and padding, and the consequential airs of a mushroom aristocrat, yet obviously wanting in sense, taste, and the human excellences, is superlatively ridiculous, and a natural laughingstock.

ALL DEPARTURES from right action are ridiculous. Whatever is untrue or perverted is laughable, ridiculing which tends to correct it. All men naturally give and make fun of what departs from their standard. "Many a true thing is said in jest." Men can often be laughed out of errors which could not otherwise be corrected. Comedy inheres in man. I saw it strongly manifested on the cars in the "White Cloud" delegation of Sioux chiefs to Washington, and their agent told me they were remarkably lively and merry around their forest camp-fires. Laughter is as spontaneous as breathing. Amusement forms an article of human consumption almost as staple and important as bread. Man was made to "laugh and grow fat." Animals play, frisk, and gambol. Here is a distinct attribute of Nature, and a separate class of functions, which must have its Faculty and organ, which are located in the upper and lateral portions of the forehead. It is a kind of Junius, or public censor. All those manifestations of all our Faculties not in accordance with their primitive constitution, it delights to expose and correct by ridicule, such as Don Quixote fighting a man of straw, Caution fearing an unloaded gun, Destruction pelting insensible objects, Ambition in boys swearing, smoking, chewing, and swaggering to appear like miniature men, etc. To correct all like human faults and foibles is its special prerogative, so that its man-perfecting power and influence are indeed great, its end is indispensable, and its exercise both most beneficial and obligatory.

THE JUXTAPOSITION of this organ and Causality deserves special attention, as teaching both a most important lesson, and also throwing some light on its function. Of course it is designed to act in conjunction with all its surrounding organs. Its action in combination with Causality helps it ascertain truth by perceiving the ridiculousness and inherent absurdity and incongruity of falsehood and error; besides presenting truth in a pleasing, pungent, pithy, mirth-provoking manner, like Franklin's maxims, and in him this organ was truly immense, which greatly impresses it. Ridicule thus becomes a most effective weapon against errors and opponents. "The public" can often be laughed out of errors into a better way by well aimed shafts of ridicule which nothing else could effect. "The fashions" must fall, and I look to wit as their "sharp-shooter." Its proximity to Imitation shows that "comedy" is inherent in man, and can therefore be made a public good. This form of amusement is thus clearly engrafted on human nature, and can therefore never be prevented. Its RIGHT DIRECTION alone remains, and this every lover of his race should labor to secure.

237.—DESCRIPTION, CULTIVATION, ETC., OF MIRTH.

LARGE.—Show an extraordinary disposition and capacity to make fun; are always laughing and making others laugh; enjoy a hearty laugh at the absurdities of others exceedingly, and delight to make fun out of everything not exactly proper or in good taste, and are always ready to give as good a joke as get; with large Expression, Comparison, Imitation, percepts, and Friendship, and moderate Dignity and Secrecy, are "the fiddle of the company;" with only average Beauty added, are clownish, and often say undignified, and perhaps low things, to raise a laugh; and with only moderate Causality, things that lack sense, etc.; with large Love, joke with and about the other sex; and with large Imitation and Expression added, love to talk with and tell stories to and about them; with large Force and Beauty added, make fun of their imperfections in dress, expression, manners, etc., and hit them off to admiration; with large Friendship, Expression, and Imitation, are excellent company; with large Causality, Comparison, and Force, argue mainly by ridicule, and showing up the absurdity of the opposite side, and excel more in exposing the fallacy of other systems than in propounding new ones; with large Beauty show taste and propriety in witticisms, but with it average or less, are often gross, and with large Love

added, vulgar in jokes ; with large Force and Destruction, love to tease them, and are sarcastic, and make many enemies ; and with large Comparison added, compare those disliked to something mean, disgusting, and ridiculous.

FULL.—Possess and evince considerable of this fun-making disposition, especially in the direction of the larger organs ; with large Comparison, Imitation, and Ambition, and moderate Dignity, manifest more of the laughable and witty than is really possessed ; may make much fun and be called witty, yet it will be owing more to what may be called drollery than pure wit ; with moderate Secretion and Dignity, and an excitable Temperament, let fly witty conceptions on the spur of the moment, and thus increase their laughableness by their being well-timed, unexpected, sudden, etc.

AVERAGE.—Are generally serious and sedate, except when Mirth is excited, yet then often laugh heartily, and evince considerable wit ; with large Observation and Expression, often say many laughable things, yet owe wit more to argument or the criticism they embody than to this Faculty.

MODERATE.—Are generally serious, sedate, and sober, and with large Dignity, stern and dignified, nor companionable except when Friendship is large, and in company with intimate friends ; with only average Beauty and Imitation, are poor in joking, have to explain, and thereby spoil witticisms ; have some witty ideas, yet lack in perceiving and expressing them ; and with large Ambition and Force, are liable to become angry when joked, and should cultivate this Faculty by making more fun.

SMALL.—Make little fun ; are slow to perceive, and still slower to turn jokes ; seldom laugh, and think it foolish or wrong to do so ; with only average Friendship, are uncompanionable ; with large reflectives and Expression, may write well yet debate poorly, and have few witty ideas and conceptions.

TO CULTIVATE.—Rid yourself of the idea that it is sinful or undignified to laugh ; try to perceive the witty and facetious aspects of subjects and things ; cultivate the acquaintance of mirthful people, read witty books, and try to imbibe their spirit ; notice and laugh at the ridiculous ; make fun ; take jokes without getting angry, and return as good as you get ; engage in lively conversation, attend picnics, etc., and cultivate a jovial, pleasant, humorous manner of speaking and acting.

TO RESTRAIN.—Cease hunting for something to laugh at and make fun of ; observe in the conduct and appearance of others all that is

congruous, correct and proper, and not that merely which is droll or ridiculous; avoid turning everything into ridicule, punning, playing upon words, double entendre, etc. Many ridicule what is not only not ridiculous but actually right. Others laugh at their fellow-men for not rendering themselves ridiculous by adopting some absurd fashion or opinion, because it is customary. No such exercise of this Faculty should ever be adopted. Others take delight in saying cutting things which sting to the quick, just because they can, even where there is in reality nothing ridiculous to be laughed at. This is all wrong. To wantonly abrade feeling and cause pain is wicked. This Faculty was created to give pleasure instead of pain, even to the subject of the joke, and they who do not know how to frame their witticisms so as to hit off the impropriety they would correct, which is the only legitimate object of ridicule, without lacerating the feelings, do not understand the true mode of "operating" with this delicate instrument. To know just when and how to give jokes is very desirable, yet rare; and to be able to express sensible observations in a taking style, is a talent as desirable as uncommon.

A FACULTY THUS DOUBLY beneficial, should of course be cultivated. Many consider joking and fun-making irreligious and wicked; but is the right exercise of any of our primitive functions wrong? For what was this natural element of mind created but to be exercised? Such exercise, so far from being sinful, is even a duty; nor can we always keep on a long face without injuring our health, blunting our Faculties, and abusing one of Heaven's choice blessings. Perfection and virtue require the exercise of all our powers, Mirth of course included, and we restrain its normal promptings at our peril.

IN CHILDREN this Faculty is large generally, and should by all means be cultivated. Trying to render them sedate and demure is all wrong. Rather let them laugh heartily and often. Instead of preventing their sportive hilarity, rather join it. Laugh and play with them. Especially get up frolics just before retiring. Few things will contribute more to both their and your health, talents, and enjoyments. Laugh them out of whatever weaknesses or absurdities may mar them, and foster a lively, cheerful, laughing disposition. And the more sound sense and wholesome suggestions you can commingle with your witty sallies the better.

AMUSEMENTS are thus engrafted on the nature of man, and should therefore be provided and patronized. Old and young require RECREATION, almost as much as food, and will have it—will and should go where they can enjoy a hearty laugh. This Faculty creates a demand

for places of public amusement, as well as private entertainment. Yet our museums and other laughter-moving exhibitions, fall very far short of what they might and should be made. That they should combine instruction with amusement is rendered apparent by the location of Mirth in the intellectual group; yet how ridiculously nonsensical they too generally are. They should expose public evils to merited ridicule, and apply many a wholesome truth in jest. For this required combination of the mirthful with the sensible, few things equal phrenological lectures and examinations, as those who have attended them can testify. This alone should entitle them to public patronage. As profitable amusements they have no equal.

THE LAUGH-CURE has already been noted. Amusements are esteemed some, but not duly. Men should have a hundred times more *fun* than now. Religious people who have done their best to choke back this sentiment, should lead off in its promotion, and furnish innocent, refining amusements, which would soon supplant coarse ones. Barnum & Co. are public benefactors, and Negro minstrelsy deserves patronage till supplanted by something better. And all should accustom themselves to look at subjects with a quizzical eye, ready to extract "fun" from it, but banish long, moody faces. Gay parties and gatherings, and lively associations generally are most beneficial to mind and body, and to be sought, not suppressed. Laugh away, at anything, everything, something, even nothing, all ye who can laugh, and you will live the longer, and be the happier and better for every giggle.

PART V.

THE INTELLECTUAL FACULTIES.

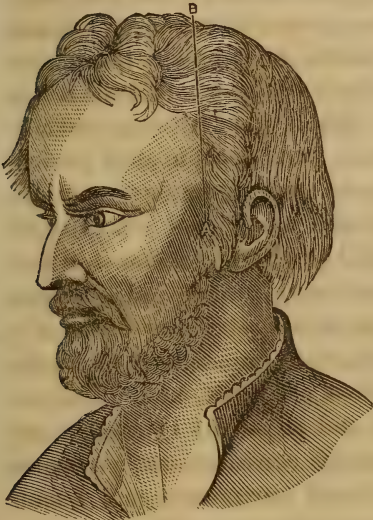
CHAPTER I.

THE PERCEPTIVE FACULTIES AND THEIR IMPROVEMENT.

238. — INTELLECT MAN'S NATURAL GUIDE AND GOVERNOR.

THE INTELLECTUAL LOBE occupies the forehead, that part generally uncovered by hair. It rests on the superorbiter plate, or that elevation in the base of the skull under which the eyes are placed.

INTELLECTUAL ORGANS LARGE.



NO. 167. — MELANCTHON.

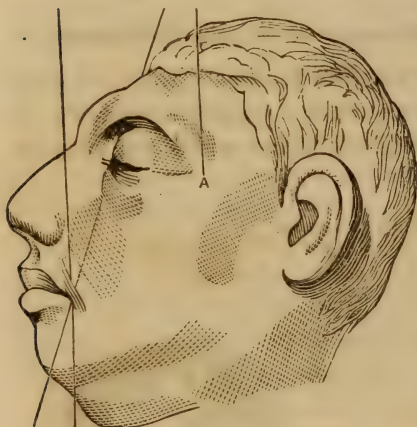


NO. 168. — NAPOLEON.

THE RULE FOR ADMEASURING the size of this lobe is this. Taking the most prominent part of the zygomatic arch (engraving,

No. 90) for your starting-point, draw a perpendicular line upwards (A B in Melancthon), when the head is erect, and the amount of brain *before* this line gives the size of this lobe. The reason of this rule is, that this arch is exactly opposite the back part of that superorbital plate on which this lobe rests; so that this rule measures only the intellectual lobe itself, whereas the old rule of measuring from the opening of the ear upwards and forwards, admeasures a portion of the propensities. It is very large in Napoleon, Lucretia Mott, and Melancthon, the *thinker* of the Reformation. In the idiot's head Camphor's facial lines are drawn, and their angle is very acute.

INTELLECTUAL ORGANS SMALL.



No. 169. — IDIOT.

THE BRAIN subdivides itself naturally into three lobes, the anterior, middle, and posterior, the former of which executes the intellectual functions.

MAN IS GOD'S NOBLEST WORK, the most beautiful in form and majestic in mien, complex in mechanism and perfect in function, powerful to accomplish and exalted in enjoyment, and creation's veritable lord and crown.

HIS INTELLECTUAL CAPACITIES, not his physical perfections and functions, nor his greater range and intensity of

emotion, nor his inexpressibly beautiful and perfect domestic affections, nor his defending, aspiring, persevering, mechanical, poetical, and liberal sentiments, nor even those moral attributes which ally him to angels and to God, and even create immortality,²¹⁶ confer this exaltation. All his other functions are great, noble, and indispensable; but *Thou*, O Intellect, and especially O *Reason*, art the *crowning* gift of God to man, and his constitutional governor and guide. Let us "praise God" for all our powers and Faculties, but love and worship Him with our *whole souls* for crowning all with those *intellectual* capacities which enable us to perceive the great laws and fundamental truths of Nature, and apply them to the study of Him and His works, and the promotion of our own

happiness. Though without morality it is despicable in proportion to its power, and each is necessary to all, yet intellect is the *constitutional* king of man. Men of impulse are men of misfortune and suffering. Propensity is blind, and blindly seeks pleasure, and hence requires intellect to conduct it upon its legitimate objects, and teach the laws of happiness. It can incalculably augment all our feelings, desires, and pleasures, as well as double a hundred fold our every enjoyment and attainment, domestic, agricultural, mechanical, protective, accumulative, honorable, and even moral. Man requires, most of all, intellect to perceive and apply SCIENCE AND LAWS to health, government, religious belief and practice, happiness, immortality, and, more than all, a RIGHT LIFE.

ITS PHYSICAL POSITION indicates its super-royal rank among the mental Faculties. Elevation of organs in the head indicates a like exaltation of their Faculties,¹⁹⁶ so that these, as high as the highest except Worship, are the most exalted. But position *forward* is another index of elevation. We consider the front of our person more honorable than its rear. Turning or sitting with the back to one is considered ill bred, and all Eastern nations forbid their wives and servants turning their backs on retiring, but all menials must bow, and walk *backwards*, in leaving; and all instinctively feel that the forehead is more dignified and elevated than the back head. The human front is therefore more elevated than rear, and face than occiput, and hence its *upper* part, the forehead, occupies by far the most exalted place of honor in man's physical structure, and this proves that its function is the grand climacteric function of man; for it is as high up as the moral, and located *before*.

ITS FRONTAL POSITION proves that its office is to guide and govern all. The pilot-house is above, and in front of all, that it may command all. There is an inherent *fitness* between this position and its directing function. Who but must see that the location of this intellectual lobe proclaims it sovereign dictator and absolute monarch of man!

FACTS, and the very structure of the human mind, clinch this philosophical nail. *Mind* always has ruled, will rule, the race. Cicero, Demosthenes, Socrates, Lycurgus, Pythagoras, Confucius wielded unlimited power over men long after their death,

because they addressed themselves to the common *sense* of mankind. Great statesmen, in peace, and strategists, in war, control nations and ages. Races are not always to the swift, nor battles to the strong, but the longest, clearest heads, deepest thinkers, shrewdest managers, and best planners, carry the day. The savans of all nations do more for them than their rulers. Great *reasoners* sway the masses. *Thought writers* govern men, and their influence is boundless and eternal. If I wished to wield the greatest power possible over mankind, both temporary and permanent, I should show them facts, and give them reasons. If my object were to benefit and reform them, I should address myself to their understandings. I would sanctify, elevate, and properly direct their passions, by showing them intellectually *why and how* this course was better than that. In short, to expound the laws and facts of Nature to men, and show them the consequences of their obedience and infraction, enlists the very selfishness of mankind in behalf of their obedience.

THIS GREAT LAW was stated and assumed before, but not demonstrated, and will come up again. "Sexual Science" shows that a matrimonial choice must be made on purely intellectual principles, before the affections become enlisted, or they will warp and bias the judgment. All legal proceedings claim to be conducted according to the law and *testimony*, that is, on a basis purely intellectual. All preaching has for its object to deepen devotion by appeals to the intellect, and all arguing of lawyers with juries, politicians with voters, and men with men, attempts to produce certain actions, by inducing intellect to command will to execute them. All mechanical inventions are its product, and all modern improvements in machinery are but the accumulations of intellect superadded to predecessors.

THE NERVES OF MOTION are traceable by *sight* from the spinal marrow upwards and forwards to the intellectual lobe.^{36, 37} Pray what does *this* mean but that intellect should direct every single muscular motion — should decide which way to walk, what blows to strike at work, and both just what to do, and how to do it? Then, since even every motion should be governed by sense, much more should every feeling. Judgment should help Appetite select and prepare food, and eat in the best manner; aid Acquisition in laying out the best financial policy, and then in

looking after all the details of business ; direct Force what to do, and what not, and make every stroke tell ; choose friends, and so manage as to obtain the most good and least harm from them ; tell parents just what to do and what not for the best good of their children, so as not to spoil them by well-meant but ill-directed kindness ; show Inhabitiveness how to "get up" the best home possible the cheapest ; tell Caution when and what to fear and avoid, and what not ; show the seeker of religious truth what is right and wrong, true and false, good and bad, and what not ; enable writers to write, readers to read, teachers to teach, and learners to learn ; invents, gets up, combines, and works labor-saving machinery — how vast the amount of mind, thought, experience, is embodied in every manufactory ; the accretion of minds innumerable for ages — learns by *experience*, that best of all teachers ; predicates what will be from what has been, and learns the lesson of all past ages as taught by history ; and acquires and uses that knowledge which gives *power* to accomplish and enjoy ; in *addition*, the pleasures of intellectual action itself, than which man knows no greater.

YOUR OWN LIFE, O man and woman, will be poor, imperfect, and a failure, till and unless you put *knowledge and understanding* at the helm of conduct and feeling. Boast not of mental discipline till you have schooled intellect to take and maintain supreme control over all you say, do, and are. The intellectual lobe occupies only from one fifth to one tenth of the brain, yet is regal in its character. It is frequently warped by the feelings. Men too often think as they feel, whereas all should feel as they think ; that is, school their feelings to follow their judgment. None can be happy till they do. Why do men's views and doctrines differ thus on all subjects ? Because feeling overrules sense.

MAN'S INTELLECTUAL POVERTY stares all everywhere in the face. How little men study ! yet they *think* still less. Behold, O reader, in your own life, ten thousand instances in which you could have avoided that evil, and secured the other good, if you had only had your *wits* about you — had known, and thought, and therefore done as you might. How often has this whim prevented that good ! How little men really *know*, and how little time and money expend on science, philosophy, and the study of

Nature ; while ninety-nine hundredths go to the feelings. They crowd comic shows and sensational exhibitions, yet pass scientific lectures and works "by on the other side," reading emotional novels, yet ignoring hard sense. Learn the poverty and weakness of men's intellect as compared with the feelings, and consequent erroneous, by the following fact.

DURING JOHNSON'S IMPEACHMENT TRIAL, the question arose whether Wade, the presiding officer, should be allowed to vote ; when behold *every Republican senator* voted and argued ay, every Democratic, no. Here were the picked men of the most intelligent nation on earth, sworn to decide and act according to their intellectual convictions, on the most solemn and august national occasion, following *party* lines merely ! How should every one vote *his* party ticket ? Because their feelings warped their understandings ! Then let us tremble lest our mere whims should blind our judgment on matters of minor moment. There is just one right way ; let us always seek and follow it.

INTELLECTUAL ENERGY AND CULTURE, individual and public, thus become the very highest objects of human attention and pursuit, religion not excepted, because this promotes all. Placing a cultivated intellect, fully instructed as to the laws of life and conditions of happiness, at the head of moral excellence, and installing these two lord over human doctrines and conduct, would banish ignorance, close all grog-shops, gambling dens, haunts of infamy, &c., annihilate vice and depravity in all their hydra forms, upset paganism with all its atrocities, bury sectarianism with its bigoted intolerance, banish both poverty and all kinds of sickness, purify and sweeten every virtue, enhance every human capacity and excellence, and crown humanity with the very climax of human perfection and enjoyment !

HOW SURPASSINGLY DELIGHTFUL, too, is the study of Nature ! How much richer than diamonds are the treasures of knowledge ! How enchanting to try philosophical and other experiments ; explore the bowels of the earth, and examine the curiosities and wonders of its surface ; learn those lessons of infinite wisdom and power taught by astronomy ; but especially of man in general, and the human mind in particular !

INTELLECTUAL CULTURE is that most exalted theme we now approach. The development of the mind is our next enchanting

subject. This of course involves the *analysis* of its primal Faculties, and the means of promoting that action of each in which mental discipline consists. Their general description is first:—

LARGE—Have natural greatness of intellect and judgment, and a high order of talents and sound sense; possess sufficient natural talent and intellectual capability to take a high stand among men; and have great strength of mind, superior judgment, and power both of acquiring knowledge easily, and reasoning profoundly; and give that originality, capaciousness, and comprehensiveness of mind which can hardly fail to make their mark. Their direction depends upon the other Faculties; with large animal organs, and weak morals, they make philosophical sensualists; ¹⁷ with large moral and weaker animal organs, moral and religious philosophers, &c.

FULL—Have good intellectual capabilities, and much strength of mind, provided it is well cultivated; with large Ambition, a talent to acquire property; with large moral organs, to enlighten and improve moral character; with large Construction, mechanical intelligence, &c.

AVERAGE—Evince fair mental powers, provided they are cultivated, otherwise only moderate; with an excitable Temperament, allow the feelings and stronger Faculties to control judgment; with large moral organs, have more piety than talents, and allow religious prejudices and preconceived doctrines to prevent impartial intellectual examination; with moderate Acquisition, will never acquire property; with average Construction, will be a poor mechanic, &c.

MODERATE—Are rather deficient in judgment, yet not palpably so; can be easily imposed upon; lack memory, and are rather wanting in sense, comprehension, and intellectual capacity.

SMALL—Are decidedly deficient in mind, and slow and dull of comprehension; lack sense; and have poor powers of memory and reason.

These Faculties are divided into three classes—the Perceptive, the Literary, and the Reflective—which, when large, confer these three kinds of talent, practicality, scholarship, and originality.

TO CULTIVATE—Exercise the whole mind in diversified studies and intellectual exercises. Nothing is as well calculated to

discipline and improve intellect as the study and practice of Phrenology.

TO RESTRAIN—Divert the flow of blood from the brain to the body by vigorous exercise, an occasional hot bath, frequent ablutions, and a general abstinence from intellectual exercises, especially reading and writing.

239. — MEMORY : ITS PHRENOLOGICAL ANALYSIS AND PROMOTION.

THE VALUE AND UTILITY of a retentive memory words cannot depict. Well might the rich gladly give all but life's necessities to be able to recall at pleasure all they ever knew ; lawyers *pay* large fees to recall at pleasure every point of law and evidence, and physicians all they have learned at college and in their practice ; scholars all they ever saw, read, and knew ; business men all they intended, but forgot to say and do at the right time ; speakers, to dispense with notes, yet say just what they had previously intended, &c. Who has not been mortified, almost self-provoked, at having forgotten something very important ? and how great the consequent inconvenience and loss ! all of which a good memory would have prevented ! How many forget almost as fast as they learn ! In what situation in life is not a good memory most useful ? In many it is indispensable. What richer legacy could parents bequeath than a strong one ? What if God had omitted to create any ? What if all our past were a blank ? What misfortune greater than forgetfulness ? or investment or labor more profitable than its improvement ? What is its definition, and what are its conditions ?

MEMORY RECALLS what we have known, done, seen, heard, felt, thought, &c., in the past, to which it relates us ; thus carrying our entire past lives along with us everywhere we go. How wonderful, how necessary a gift ! All metaphysicians utterly fail to give any correct or tangible analysis of it. Phrenology alone analyzes it perfectly. Please note how simple, how true to nature, and how easily understood, is its definition of this element.

EACH INTELLECTUAL FACULTY remembers its own operations, while Eventuality recollects those of the feelings. Thus, Locality recalls the places seen, and whereabouts of things ; Form, faces, shapes, &c. ; Color, the tints, hues, and shades of colors

seen; Music repeats tunes; Expression commits to memory; Causality recalls thoughts; and so of all the other intellectual Faculties; while Eventuality remembers both knowledge and events, and the action of the feelings, and that the more clearly the more intense that action — that is, the action of the largest organs the best. Here, reader, is a definition of memory you can understand; the metaphysical definitions you cannot. This also shows why and how

A GOOD AND POOR memory can co-exist, thus: The same person can have a large organ of Form, which recollects faces, along with a poor one of names, and hence always remembers all faces ever seen, yet forgets their names as soon as heard; while another may have small Form, and hence forgets persons, and yet, if memory of names (a part of Expression) is large, he never forgets names. One with large Eventuality and small Tune recollects facts, but forgets music, and *vice versa*. But this truth need not be amplified here, because rendered apparent as we proceed.

THE PARAMOUNT CONDITION of a good memory is good health — that is, a vigorous physique. Mark this fact, and its lessons. In fainting, stupefaction from chloroform, drunkenness, &c., nothing is remembered, and when one is all tired out and sleepy, but little, and that feebly; while what we learn when rested and vigorous is retained proportionally longer and more distinctly. Now, here is a palpable *fact*, patent to the *experience* of all who will “take notice.” What does this mean? Obviously and very emphatically this, that

ALL PHYSICAL STATES similarly affect intellect and memory. We have already seen that all physical conditions modify the morals; ²³ that all abnormal action creates morbid, that is, sinful, desires; and now see that even intellect is equally amenable to physiological conditions. How emphatically all this, and much more like it, impresses those great doctrines of the organism and health unfolded in Parts I. and II. ! If any think we dwelt on them unduly, this is impossible. Men will some day realize this great truth, and incorporate it into their lives. Let a few facts suffice to impress it.

ALL PUBLIC MEN fit themselves for all their powerful mental efforts by some physiological preparation. Beecher must have his strong coffee, and Gough his strong tea, just before appearing in

public. Webster was accustomed to eat lightly a day or two before making a great public effort, and then a generous meal just before. The reference already made to Pinkney also illustrates this point,³⁵ and an entire doctrine of the Temperaments underlies it. Many speakers stimulate with alcohol just before beginning to speak, and some with opium. Rufus Choate, New England's most eloquent jury lawyer, just before any great speaking effort, went to his barber and had his head rubbed and champoosed briskly, then took several cups of the strongest tea, and used so much opium as to have enfeebled and shortened his life. A fact already mentioned of Benton is directly in point, as is that of the supreme judges of Texas.¹²⁵ Byron stimulated in order to write well, and Sheridan and Fox prepared themselves for their parliamentary efforts by a physical means we will not mention, yet illustrating this point. Many other facts, already stated, apply to this principle, and enforce the great lesson here taught, that a strong mind must first have a strong body, and that all physical impairment impairs the intellectual powers. Students who would study hard must first of all learn to keep their *brain* in good working order. Look again at ³⁷ in this connection.

AN INTELLIGENT FRENCHMAN, long a resident of Mexico, wished to mention the name of a Parisian friend, physician to Louis Philippe, who advocated Phrenology, but on finally being unable to command it, said, —

"Ever since I came near being suffocated by the burning of charcoal in a close room, I cannot possibly remember names, and forget almost everything."

"Did your reasoning powers suffer equally?"

"No, scarcely at all; only my memory. I can think and reason about as clearly and well as before, but my memory is almost gone."

NERVOUS DISEASES always impair the memory, because they enfeeble the brain. Many readers are living witnesses of a concomitant decline of both health and memory. If asked for the first and best known means of strengthening both intellect and memory, it would be, "Invigorate the brain by improving the health."

Many are living witnesses that a fit of sickness, which, with its drugs, left their bodies enfeebled, also left their memories much weaker, relatively, than their understandings. The reason is

apparent, and already demonstrated, namely, the bodily nerves ramify on the *perceptive* or lower part of the intellectual lobe more than on the reflective organs, which puts those organs of memory in special rapport with the bodily conditions, obviously so as to find food, and execute other bodily wants.

JUVENILE memories are remarkable. This fact is apparent. Why? Because their bodies are yet unimpaired. And if they would only *keep up* their physical vigor they would retain their memories. And since all their functions ought to *grow* and wonderfully *strengthen* with age,²¹⁶ so might and ought, of course, their memory. Its organs are governed by that same law of increase by exercise shown to govern all our animal and mental powers. Indeed, all educational efforts presuppose such improvement, the possibility of which we have placed beyond all manner of doubt. That same law by which exercise increases power there shown to govern the entire physiology and brain, applies to intellectual improvement with increased force, and in all its ramifications.

BY WHAT MEANS, do parents, teachers, the young, the professional, one and all, eagerly inquire, can intellect be expanded and memory strengthened? Phrenology and Physiology answer: By increasing the power and activity of the intellectual organs. But by no other. (The brain being the organ of the mind, and the conditions of both, therefore, being perfectly reciprocal,³⁵ of course all mental improvement must of necessity be accompanied by increased cerebral energy, and all intellectual advancement must be coincident with an increase of power and activity in the intellectual lobe; yet whatever weakens this lobe of course weakens intellect.) This inference is the necessary consequence of the brain's being the organ of the mind, which renders the conditions of both perfectly reciprocal. Mental discipline, therefore, consists in the vigorous and active state of the intellectual *organs*, and the former can be effected only by means of the latter. His mind is best disciplined whose brain can be brought at will into the most vigorous and powerful action; and since the vigor and improvement of the memory consist in precisely the same cerebral conditions, it can also be strengthened by the same instrumentality, but by no other. This universal law, founded on the brain's being the organ of the mind, tells all who would improve either memory or intellect, that their only means of securing this

most glorious result is to augment the activity and efficiency of their cerebral organs of memory and intellect; and that whatever enfeebles the latter necessarily weakens the former.

MENTAL DISCIPLINE, then, consists in that state of the body in general, and brain in particular, in which blood flows freely to the intellectual lobe to enable it to act. A disciplined brain and a disciplined mind are identically the same, and the means of either are also those of the other. They are —

1. A GOOD INTELLECTUAL LOBE hereditarily.
2. A VIGOROUS PHYSIOLOGY, or observance of the health laws.
3. LEARNING WHAT FACULTIES are weak, and require more especial culture, in order to secure well-balanced and harmonious intellectual action.⁶³
4. THEIR INDIVIDUAL EXERCISE by presenting their natural stimulus.⁶⁸

A FACT-TIGHT memory of everything is a glorious possibility; indeed, is its *natural* outworking. We have only to be born with a large and vigorous intellectual lobe, to preserve our physical powers in their pristine energy, and to enhance all by right culture,⁶⁴ in order to remember *all we ever knew*, or may know, here and hereafter, forever! This, O man, is our glorious intellectual birthright! Let us proceed to inquire what are the means of cultivating each intellectual Faculty, and thereby each and all kinds of memory. This, of course, involves the analysis of each separately.

INTELLECTUAL CULTURE cannot be bought. Educational facilities aid, but do not create, mental training. No royal road to so great a treasure is opened to an aristocratic few, yet denied the plebeian many. Excepting a better hereditary intellectual organization in some than in others, no subsequent improvement can be effected by high or low, rich or poor, but by the *action* of the intellectual powers themselves, along with that increase effected by improving health. This great law puts all upon a par, only that some enjoy greater facilities for intellectual exercise than others. The means and mode to be employed by both are the same, which facilities may promote, yet they are by no means indispensable. The poorest laborer, even the most abject slave, can think and remember *while at work*. The sons of the rich, whose facilities are greatest, attain far less mental discipline than

those who enjoy fewer, but make a better use of what they have. All of us, however poor, without books or teachers, can EXERCISE our minds, and thus increase their efficiency; can strengthen memory by recalling the past, though it be simply our own experience, and thus cause the blood to flow to the organ exercised, and thereby cultivate intellect.

SPONTANEOUS action alone can discipline. Forced action is almost no action. As a boy flogged to school will never study when there, so *irksome* study exercises, and therefore improves, the Faculties but little. Rendering study agreeable proportionably augments cerebral action, and therefore mental vigor. This is the intellectual mainspring. Scholars who dislike a teacher rarely learn much, because he does not provoke this spontaneous action; while those who love their teachers learn spontaneously, and therefore rapidly. We proceed to *analyze the mind*, and thereby show how to *improve all kinds of memory* — *expand the intellect*, acquire and retain knowledge, and *educate the young* — objects of the utmost practical importance to man.

NATURE DIVIDES the intellectual Faculties and organs into three groups, each of which confers its own special talents and cast of mind: the perceptive, located over and around the eyes, which relate man to matter, and teach him the physical attributes and properties of things; the knowing, located in the middle of the forehead, which learn and remember facts, and confer scholarship, brilliancy, and literary genius; and the reflectives, located in the upper part of the forehead, which reason, think, philosophize, and adapt ways and means to ends. The predominance of the former renders the forehead retiring, as in Burritt; of the latter, bold, high, wide, and steep, as in Napoleon, Lucretia Mott, Webster, Peters, Gall, &c.; and that of the knowing renders it fullest in its middle, as in Sheridan, and most children; while its deficiency leaves the forehead hollowing in its middle.

240. — THE PERCEPTIVE FACULTIES: THEIR APPEARANCE, DESCRIPTION, &c.

These bring man into direct intercourse with the physical world; take cognizance of the physical qualities of matter; and give correct judgment of the properties of things, their value, fitness, uses, and a practical cast of mind.

LARGE — Are pre-eminent in these respects; know by intuition the conditions, fitness, value, &c., of things; have extraordinary power of observation, and ability for examining, collecting statistics, studying the natural sciences, &c.; judge correctly of the various qualities and relations of material things: with Acquisition large, form correct ideas of the value of property, goods, &c., and what kinds are likely to rise in value, and make good bargains; with large Construction, can conduct mechanical operations, and have very good talents for building machinery, superintending workmen, &c.; with the mental Temperament, and large reflectives added, are endowed by Nature with a truly scientific cast of mind, and a talent for studying the natural sciences; with an active Temperament and favorable opportunities, know a good deal about matters and things in general; are quick of observation and perception, have a matter-of-fact, common-sense tact, and will show off to excellent advantage. They are useful in almost every department and situation in life.

FULL — Have fair perceptive powers, and a good share of practical sense; learn and remember most things quite well; love natural science, and with study can become a good scholar, yet not without it; with large Acquisition, judge of the value of things with sufficient correctness to make good bargains, but with moderate Acquisition lack such judgment; with large Construction, aided by experience, have a good mechanical mind, but without experience, or with only moderate Construction, are deficient.

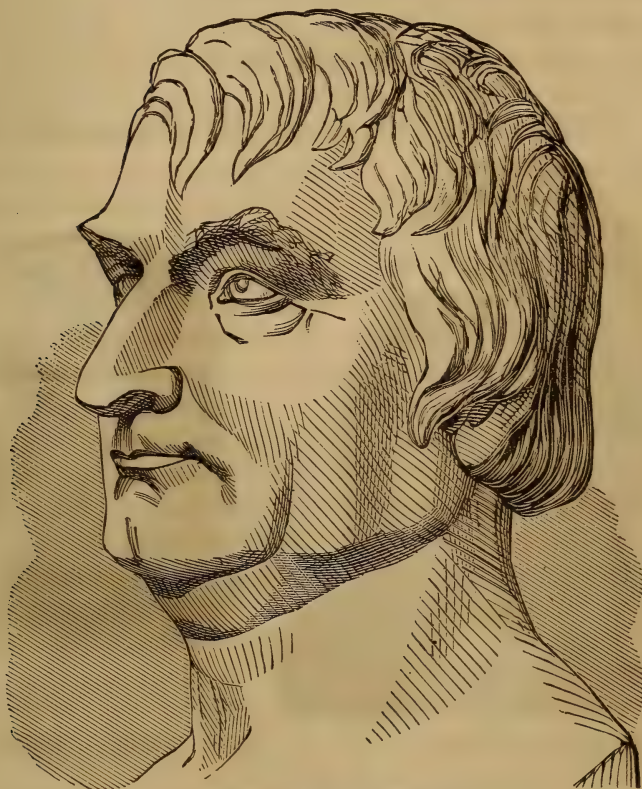
AVERAGE — Are endowed with only fair perceptive and knowing powers, but, well cultivated, know considerable about matters and things, and learn with tolerable ease; yet without cultivation are deficient in practicability of talent, and capability of gathering and retaining knowledge. For combinations, see Full.

MODERATE — Are rather slow and dull of observation and perception, require some time to understand things, and even then lack specific knowledge of details; are rather deficient in matters-of-fact knowledge, and show off to poor advantage; learn slowly, and fail in off-hand judgment and action; with only average Acquisition, are deficient in judging of the value of things, and easily cheated; and with moderate expression, are rather wanting in practical talent.

SMALL — Are very deficient in recollecting and judging; lack practical sense, and should cultivate the knowing and remembering Faculties; see few things, and know little about the external world, its qualities, and relations.

TO CULTIVATE — *Exercise* each separately, and all together, in examining closely all the material properties of physical bodies;

PHYSICO-PERCEPTIVE GROUP: VERY LARGE.



NO. 170. — JOHN JACOB ASTOR.

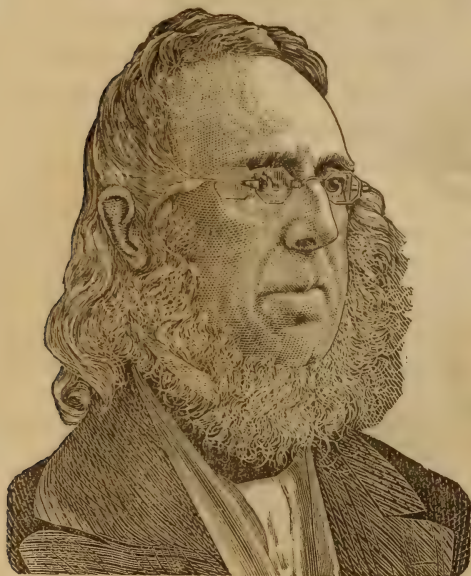
study the natural sciences, especially Phrenology; and examine the natural qualities of all material objects.

THIS RULE for observing their size obviates the objection sometimes urged that the eyebrows and their arches prevent the correct diagnosis of these smaller organs crowded so thickly together. *The shape of the eyebrow* reveals the size, absolute and relative,

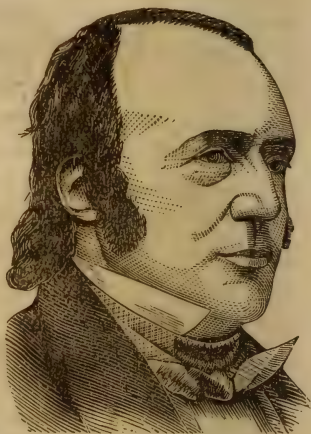
of each, thus : When *all* are large, the eyebrow is long and arching ; when all are deficient, it is short and straight ; when some are large, and others small, it arches over the large ones, but passes horizontally over those which are small. This rule is infallible.

THE SENSES TEACH. What *they* tell us we *know*, not guess at. They constitute those main avenues through which knowledge enters the mind. Their combinations enable us to put this and that together, and learn therefrom, which the loss of two or three of them greatly retards. The difficulty of teaching those born

PERCEPTIVES VERY LARGE.



No. 171. — PETER COOPER.

INTELLECTUALS AND PERCEPTIVES
VERY LARGE.

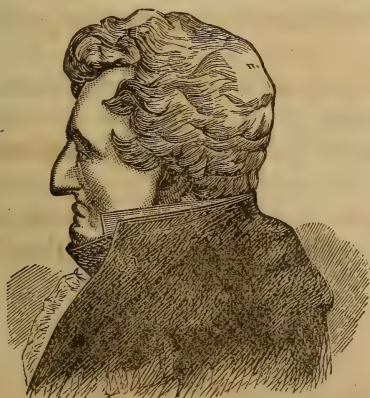
No. 172. — AGASSIZ.

deaf and blind is really very great, of which Laura Bridgman furnishes an example. Her history is very instructive, yet we will not now stop to read its lessons. Suffice it that "seeing is believing," that each sense teaches and compels us to learn its kind of truth, and all of them furnish a solid, tangible, absolute basis, on which to rear our intellectual superstructure. Their cerebral location is right *under the reflective lobe*, so that their action gives us positive scientific knowledge. Their value cannot be overrated.

241. — THE SENSES; OR TOUCH, SIGHT, HEARING, TASTE, AND SMELL.

THE IMPORTANCE of these senses may be inferred from the loss of power and enjoyment consequent on their loss. How could we exist without them? Of the value of touch, and the nervous means by which it is executed, we have already spoken.³⁷ Without it how could we ever know when we were too hot or cold, or were being burned, frozen, bruised, or otherwise injured? We have already discussed the necessary part pain plays in the life economies.¹⁹ It is its own chief warning instrumentality. How many and how valuable are the lessons it teaches! And it

INTELLECTUALS AND PERCEPTIVES
VERY LARGE.



NO. 173. — CUVIER.

PERCEPTIVES LARGE; RE-
FLECTIVES SMALL.



NO. 174. — GORILLA.

is yet destined throughout the great future of our existence to completely reform and save us from all violation of natural law,²²⁴ and thereby from pain itself — the memory of our past suffering being our safeguard against future sin and sufferings.

ALL SENSATIONAL PLEASURES, that is, feelings of physical comforts and luxuries, come through this sense. How much pleasure sunshine, warmth, &c., confer on us! We little realize how much we enjoy through healthy nerves, or suffer through sickly, morbid ones, as in neuralgia, rheumatism, gout, headache, toothache, &c.¹⁵¹ But we have already discussed their effects, and means of health and restoration, and need not repeat.

TASTE AND SMELL have also been discussed under Appetite,⁹³ so that we need only here discuss Hearing and Sight.

EACH SENSE IS A MENTAL FACULTY, and performed by its own central organ, which is located in the nervous ganglion, at the junction of its nerve with the brain. Some are much stronger or weaker than others in the same person; each executes a *sui generis* class of functions, and conforms to all the conditions of a mental Faculty.⁹⁴

EACH CAN BE IMPROVED by culture. Thus the loss of either compels the greater exercise of the others, which wonderfully improves them. The touch of blind persons becomes wonderfully acute, because loss of sight compels its greater action. Yet its equal *exercise* along *with* sight would render it equally strong with sight as without.⁶⁴ Let the value of each sense, then, enforce the practical importance of the cultivation of each, all the way along up from childhood; and of parents instilling its exercise into children.

GLASSES should be worn in aid of sight when they become really necessary; yet be used sparingly. The Author at sixty-three can read good print, in a good light, without glasses, and better than he could twelve years ago, and write, day and night, even with a poor light, probably because of the improved state of his general health.¹⁶⁰ If "there's nothing like leather," so there's nothing like health.

XXVIII. — OBSERVATION, or "INDIVIDUALITY."

242. — ITS ANALYSIS, LOCATION, AND ADAPTATION.

THE LOOKER. — Inspection; curiosity to see and examine; cognizance of individual objects; scrutiny; gazing.

ITS LOCATION is in the middle of the lower part of the forehead, between the inner terminus of the eyebrows, and above the top of the nose. When it is large the eyebrows flex downward at their nasal ends, as in the accompanying Chinese head, and the lower part of the forehead projects, as in Ephraim Byram; but when it is deficient, the eyebrows are straight at their inner ends, and come close together, as in Deacon Seth Terry, and

old Franklin. It is immense in Agassiz and Michael Angelo, in Seward and Peter Cooper, and larger in Elihu Burritt, the Learned Blacksmith, than I remember ever to have seen it elsewhere. In all infants it is prodigious. It was discovered by Spurzheim. Gall included this organ and Eventuality together, under the name of Educability.

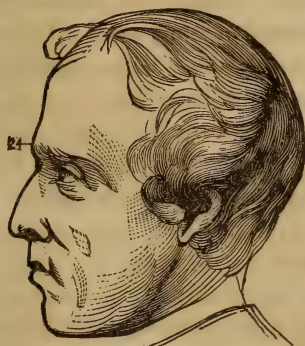
ITS ADAPTATION is to the individuality and personality of things; that is, to the divisibility of matter into separate existences, or to the thingness of things. Matter is not one great conglomerate mass, but is parcelled out into individual things innumerable, each having an individual existence of its own, of

OBSERVATION LARGE.



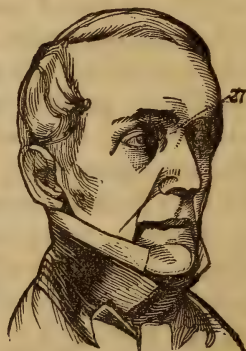
No. 175. — CHINESE.

OBSERVATION LARGE.



No. 176. — EPHRAIM BYRAM.

OBSERVATION SMALL.



No. 177. — DEACON SETH TERRY.

which this Faculty takes cognizance. It is adapted, and adapts men to what Natural Philosophy calls the divisibility of matter, or that natural attribute which allows it to be subdivided indefinitely. Yet each division maintains a personal existence. It thus puts man in relation and contact with a world full of things for his inspection, as well as excites in him an insatiable desire to examine.

everything. It is, therefore, the looking Faculty. Its distinctive office is to observe things. It asks, "What is this?" and says, "Show me that." It has discovered many useful improvements in the arts and sciences, Phrenology among the rest, and constitutes that door through which the cognizance of external objects enters the mind. Before we can know the uses, properties, causes, &c., of things, we must first know that such things *exist*; and of this Observation informs us. The first impression the mind can have of persons and things, is of their independent existence; so that, other things being equal, the more things one observes, the more material is furnished for memory to treasure up, reason to investigate, and all the other Faculties upon which to operate.

143. — DESCRIPTION AND CULTIVATION OF OBSERVATION.

LARGE — Have an insatiable desire to see, examine, experience, and know all about everything, together with extraordinary powers of observation; are perpetual and inveterate lookers; cannot rest satisfied till all is known; individualize everything, and are very minute and particular in observing all things; with large Beauty, employ many allegorical and like figures; with large Intuition and Comparison, observe every little thing which people say and do, and read character correctly from what smaller Observation would not notice; love illustrated books; read all the signs, and look in at all the shop windows, besides often looking back to see things passed; see whatever is transpiring around, what should be done, &c.; are quick of perception, knowing, and with large Acquisition, sharp to perceive whatever appertains to property; with large Parental Love, whatever concerns children; with large Appetite, whatever belongs to the flavor and qualities of food, and know what things are good by looking at them; with large Intuition, see quickly whatever appertains to individual character, and whether it is favorable or unfavorable; with large Conscience, perceive readily the moral, or right and wrong of things; with large Beauty, are quick to perceive perfection and deformity; with large Form, notice the countenances and looks of all met; with small Color, fail to observe tints, hues, and shades; with large Order and moderate Beauty, perceive disarrangement at once, yet fail to notice the want of taste or niceness. These and kindred combinations show why some persons are very quick to notice some things, but slow to observe others.

FULL — Have good observing powers, and much desire to see and know things, yet are not remarkable in these respects: with large Acquisition, but moderate Beauty, are quick to notice whatever appertains to property, yet fail to observe instances of beauty and deformity; but with large Beauty and moderate Acquisition, quickly see beauty and deformity, yet do not quickly observe the qualities of things or value of property; with large Parental Love and Beauty, see at once indices of beauty and perfection in children; but if this organ and Expression are moderate, fail to perceive beauty of expression or sentiment, &c.

AVERAGE — Observe only conspicuous objects, and more in general than detail, and what especially interests.

MODERATE — Are rather deficient in this looking capability, and should cultivate it: with large Locality, may observe places sufficiently to find them again; with large Order, observe when things are out of place; with large Causality, see that it may find materials for reasoning, &c., yet observe little *per se*.

SMALL — Observe only what is thrust upon the attention, and are quite deficient in this respect.

ITS POSITION in the centre of this perceptive group shows that its function is also central. It is placed as nearly between the eyes as possible, obviously that it may work with them; and at the bottom of all the intellectual organs, clearly because its action is indispensable to them. It would almost seem as though all the intellectual organs revolve around it. This fact, along with its function, shows that

ITS CULTIVATION IS MOST IMPORTANT. Indifferent lookers little realize how much useful information, how many valuable lessons and suggestions, and how many texts for thought, and how much material an incentive for the action of all their other Faculties, they lose, which quick observation would note, and thus greatly enhance all the mental powers, and all the other enjoyments, besides those of observation itself.

OUR WORLD IS FULL of curiosities. Air, earth, and water are literally crowded with every conceivable variety of objects, the examination of which is most interesting and instructive. Nature, thou art full of beautiful and wonderful works, scattered lavishly all around and within us. We trample thy living treasures unnoticed under foot perpetually, in our scrambles after mammon and baubles. Would that mortals would behold and learn thy exhaustless treasures of knowledge and wisdom.

OBSERVATION IMPRESSES as can nothing else. What we see we *know* and remember. The best description makes and leaves but a faint impression of things; while seeing them *brands* everything appertaining to them right into our inner consciousness. Thus one minute's ocular inspection of anything — a skull, for example — leaves an impression far more vivid and lasting than could cords of books and years of description. Children and adults learn mechanics, science, Phrenology, everything ten times faster and better from sight than book. Hence pictorial books, which represent things, “take,” because they employ this law of mind. A single picture often teaches volumes.

ITS CULTIVATION, as furnishing all the other Faculties with their stock of material, thus becomes the first step, as it is the most important, toward disciplining the mind. “Open your eyes upon all Nature, and keep them open,” is the most important lesson intellectual aspirants can learn. A. and B., alike except that Observation is large in A. but small in B., visit the World's Fair. A. notices whatever comes within sight of ever-roving eagle eyes; while B., head and eyes cast down, sees but little; and ever after A. has ten thousand things seen there for Eventuality to remember, Expression to talk about, the reasoning organs to think about, and all the other Faculties to work upon; while B. lacks all these mental and sentimental incentives. Behold the heaven-wide difference, then, between two persons, other things being equal, one always, the other rarely, exercising this Faculty. Then

HOW CAN IT BE CULTIVATED? Solely by looking, seeing, inspecting, and examining. Many, “having eyes, see not.” They perform the physical, but omit the mental part of vision. How many pass something on the street a hundred times without seeing it; have even seen, but not noticed it; or merely observed its existence, but nothing more! Moderate Observation may see a person, yet notice little said or done, while large Observation sees and remembers fifty or more things unnoticed by the other, though both have equally good eyes. Some stare without noticing, while Italians, Spaniards, and the French scrutinize minutely without gazing.

OBSERVE HUMAN NATURE, that most prolific and instructive subject on earth. Wherever you mix up among men, at home or abroad, note all their little actions, looks, and sayings. Scan and

read their physiognomy, their natural language, and their tones ; for men can note with ears as well as eyes, and all the varying expressions of their eyes, mouths, &c., and then spell out the lessons thus taught. Yet we cannot draw right inferences further than we observe the *facts*. Human beings throng perpetually around us, and Phrenology enables us to read them through and through. No other study bears any comparison with this either as disciplining the mind by taxing all its energies, or in the great practical lessons it teaches. After studying it but little, though even in church, you will find yourself perpetually scanning heads and actions, not how they dress as much as what mental traits they manifest. Which of the two is most instructive ? Its study creates a seeing mania, to see and scrutinize men and manners.

IN ALL CHILDREN it is developed almost to deformity, and larger at birth than any other intellectual organ ; because it constitutes that mental front door through which all else enters the mind. Infants must *look* in order to remember. Their minds are constituted to begin to develop at this identical Faculty, because this provokes every other. Hence, with what avidity they seize and ask about picture books ? This powerful looking *instinct* was created to be cultivated, not repressed. All juvenile education should be formed on this principle of the young mind, that observation is their highway to knowledge. Existing educational systems require to be remodelled in accordance with this obvious law of the opening mind ; especially since it now usually *represses* this main element, which it should cultivate. How often are children reprov'd, even punished, for looking around the school-house, or out at the windows, with, "Keep your eyes on your book, or I'll flog you." Gracious Heavens ! Opening humanity flogged for merely *looking* ! As well chastise for eating. Almost as well check respiration as Observation ; for the latter is as essential to intellectual life as is the former to physical. Education is begun and conducted wrongly throughout. Instead of repressing sight, it should *consist* mainly in showing things. But we shall develop our educational system in Part VI.

XXIX. FORM.

244. — ITS LOCATION, DISCOVERY, AND ADAPTATION.

THE DRAFTSMAN; Configuration; cognizance and memory of forms, shapes, faces, looks, countenances, &c.; perception of family likenesses, resemblances, &c.

VERY LARGE. FORM, SIZE, AND COLOR.



NO. 178. — RUBENS.

ITS LOCATION is partly between, and slightly above the eyes. It lies on each side of the *crista galli*, or cock's comb, that bony process between and above the eyes, on which the falciform process of the dura mater fastens. It is immense in Blackhawk, No. 20, and in most Indians; in Rubens, No. 178, and J. Jordain, No. 179; Stearns, No. 165, &c. When it is deficient, the eyes come near each other; when large, it spreads them far apart.

"GALL was desired at Vienna to examine the head of a little girl who had a remarkable recollection of persons, and found only that her eyes were pushed laterally outwards. He then spoke of memory of persons being indicated by distance between the eyes. It is situated in the internal angle of the orbit, and, when large, pushes the eyeballs towards the external angle, a little outwards and downwards. It varies in size in whole nations. Many Chinese have it large. It is commonly large in the French, and with Construction, invents patterns. It is essential in portrait painting and crystallography." — *Spurzheim*.

"Mr. Audubon says of the late Mr. Bewick, the most eminent English wood engraver, 'His eyes were placed farther apart than those of any man I have ever seen.'"

"CUVIER owed much of his success as a comparative anatomist to this Faculty, and its organ was largely developed in his head." — *Combe*.

ALL THE BEES of a hive, though numbering from twenty to eighty thousand, says Spurzheim, know each other. Gall said it was deficient in him, and that he often failed to recognize those with whom he had just dined, and frequently seen. The difference in this respect between different persons is *toto caelo*, some remembering, others forgetting, the looks of all the persons they see.

ITS ADAPTATION is to that inherent element of matter called

configuration in natural philosophy. Matter cannot exist without having some kind of shape. Or if this element existed in Nature, but man had no primary mental Faculty adapted to it, he might see his fellow-men nine hundred and ninety-nine times in a day, yet not know them the thousandth. But with this arrangement in Nature and this mental Faculty in man, we can identify persons and things by this means. Nature puts all her orders, genera, species, and individual productions up each into their own figure, as already stated. All tigers are analogous in configuration to all others, and thus of all classes of things in nature. As far as the eye can distinguish a person, we know him to belong to the human race by his resemblance in form to that race. Besides this general resemblance, though all have feet, body, hands, heads, eyes, noses, mouths, chins, eyebrows, foreheads, &c., yet no two human beings look exactly alike. Cast your eyes over any congregation, and behold that vast diversity of countenances there perceptible. No two appear any way alike. When it consists of all nations, as at Salt Lake, this diversity is much greater, and most amusing. Here, then, is an absolute, a universal property of matter and Nature. Man and all things are shaped. This natural ordinance is most useful and necessary. It is the classifying basis of most of the natural sciences. What are botany and conchology but sciences mainly of shape? Does not geometry consist mainly in it? And are not all the sciences composed of forms more than anything else? All great naturalists and scientists have it very large. Even reading, writing, and spelling involve this attribute mainly. In what does writing consist but in forming letters, and thereby words? and in what reading and spelling but in apprehending the shapes of letters and words? Hence all children in whom it is large, learn to read easily and correctly. In drawing and making after a pattern, it is especially necessary. Its utility is really inconceivably great.

ITS INFLAMMATION creates all the frightful images of hobgoblins, ghosts, and horrible visions of delirium tremens, because all inflammation of the stomach inflames Appetite, and of course contiguous organs, and this one the most, because it is located so near the optic nerves, and organ of Form. Those awful sights and images experienced in horrid dreams and nightmare come from a like inflammation of the stomach, and of course the contiguous optic nerve, which runs right alongside of this organ.³⁷

DESCRIPTION AND CULTIVATION OF FORM.

LARGE— Possess this capability to an extraordinary degree ; recognize old friends, schoolmates, and persons not seen for many years ; notice, and for a long time remember, the faces, countenances, forms, looks, &c., of persons, beasts, and things once seen ; know by sight many whose name is not remembered : with large Ideality, delight in beautiful forms ; with large Spirituality, see the spirits of the departed ; with disordered nerves, see horrid images, &c. ; with Observation large, both observe and recollect persons and things, but with it moderate, fail to notice, and hence to remember them, unless business or something special draws attention to them ; with large Parental Love, notice and recollect children, favorite animals, &c. ; with large Acquisition, Observation, and Locality, readily detect counterfeits, &c.

ITS CULTIVATION is as important as its utility is great. All should take special pains to augment its activity and power. This can be effected only by its exercise, and this by observing and remembering shapes, and associating persons and things with their forms. The extent to which this can be done is astonishing. Formerly, menageries and circuses allowed those who had paid their circus entrance in the forenoon to pass in free afternoon and evening. As tickets would have been transferred, the door-keeper was compelled to remember all who had previously paid, which compelled him to observe minutely their *faces*, not dress, which could be changed, and could rarely be deceived. He claimed to “carry faces in his eye” by a supernatural gift, whereas it was due to large and cultivated Form. Southern and western travel illustrates this to a remarkable degree by the mate remembering all who have paid by their looks. Police officers detect old offenders by scrutinizing every feature of all brought, and noting every peculiarity in shape. A like cultivation of Form in all will greatly improve their recollection of those before seen. To improve it, look those with whom you talk fully in the face, — and it is not polite to talk with any one without doing so, — and scan all their individual features and specialties, and the general look and make-up of their entire countenances, as if saying to yourself, “I will remember that face when and wherever I see it again.” What better opportunity for its discipline could be needed or had ?

STUDYING PHONOGRAPHY is another excellent mode of its cul-

ture. It consists in associating certain sounds with certain characters. There is a genuine science of spelling, and only one right system, namely, since the human voice cannot possibly make over forty to forty-two primitive vocal sounds, we should have an alphabet of just that number of letters, and let a given letter represent one, and never but one, of these sounds; whereas now the same letter, *a*, for example, represents one sound as in *baker*, another as in *bark*, a third *ball*, a fourth as in *bat*, &c., thus confusing learners and spellers, and requiring years of study to learn to read and spell well; whereas once arrange the alphabet on this one-letter-and-sound principle, and learning the letters, which any ordinary child could do in a week, would be learning to read and spell correctly, and save all the juveniles' time now worse than wasted on this most irksome process of learning to spell and read. Phonography attains this end, and is a great art; and deserves to be universally learned. Graham's system is better than Pitman's, Muncy's probably equally good, some say better, and I have had good reporters who learned Lindsley's system quickly and reported accurately.

TOO EARLY SCHOOLING often creates a great dislike of books, because so irksome; whereas waiting till you have wrought up a strong *desire* to learn to read by reading them stories, &c., by delighting and interesting them, would enable them to learn to read in a quarter the time now taken, and leave them intensely and *permanently* interested in books and literary pursuits. Wait till they are eight or ten, meanwhile teaching them objects on the kindergarten and like plans, and they can be advanced ten times faster than now, and with this paramount advantage that they love books and reading, while the former will hate both. The mother of Wesley would not let her children learn a letter till they were five years old; and the day John was five, she taught him every letter of the alphabet, and the next day taught him to read a verse in the Bible. Postpone and then conduct learning to read and spell as here directed, and any child of ordinary capabilities can learn both in a few months. Hundreds of instances in which this course has been pursued have practically demonstrated its feasibility.

XXX. SIZE.

245. — ITS LOCATION, ANALYSIS, DESCRIPTION, CULTIVATION, &c.

THE ARCHITECT — Measurement by the eye; cognizance and memory of magnitude, quantity, dimensions, such as length, breadth, height, depth, angles, perpendiculars, levels, and variations from them, bulk, distance, proportion, weight by size, &c.

ITS LOCATION is on each side of Observation, yet slightly lower down, and in the angle formed by the root of the nose and arch of the eyebrows. To find it, place the ball of the thumb in this angle, the palm of the hand being towards the forehead, and when it is large this ball will rest on a prominence quite like half a bean, the round side projecting towards the eye, and running backwards along the root of the nose. In proportion as it is large it causes the inner portions of the eyebrows to project over the inner portions of the eyes, quite like the eaves of a house, forming a shed over the inner portion of each eye, as in Jordain, Rubens, Blackhawk, and others. It is fully established, and easily observed.

“ITS ORGAN is placed at the internal corner of the superciliary arch, on both sides of Observation. It is important to geometers, architects, carpenters, mechanicians, portrait painters, and all who measure dimensions. It measures the size of the heavenly bodies, and of terrestrial objects, and, with Locality, gives conceptions of perspective.” — *Spurzheim*.

“MAGNITUDE, size, length, breadth, thickness, height, depth, distance, being, strictly speaking, referable to extension, this Faculty is probably that of space in general.” — *Sir G. S. Mackenzie*.

COMBE mentions a lady good in copying forms, but inaccurate in proportions; who fails in perspective, but enjoys forms; and is conscious that she has Form, but lacks Size.

ITS ADAPTATION is to that element in Nature called “magnitude,” in natural philosophy. Nothing can be without possessing bulk, or being larger or smaller absolutely and relatively. But for this elementary property of matter, no difference would exist between a drop of water and an ocean of water, or between giants and pygmies, mountains and mole-hills. Or with this arrangement in Nature, but without this Faculty in man to put him in relation with large and small, all conception of dimension

would have been impossible; and in this event we could neither distinguish each other by the general size of our persons, nor the particular size of our features, nor perceive any difference between a rain-drop and a flood. But with both this primary element of matter on the one hand, and this mental Faculty adapted to it on the other, we can distinguish things by their being larger and smaller, and apply this measuring capability to all our material relations. In short, the wise Maker of all things has appended magnitude to matter as its universal concomitant, and then created in man a mental Faculty which puts him in relation with it, and enables him to employ it in attaining myriads of desirable life ends. How, without it, could he fit all the parts of a complicated machine to each other, or work it without, or even fit his own clothes to his own person, or wear them unfitted?

NATURE'S DISTANCES are immense, incalculable, inconceivable. Who can tell how far off that fixed star is, since it would take the lightning's flash thousands of years to come from it to us? Who has clearly admeasured the quantity of water in the ocean, the vast piles of matter in that mountain range, the dimensions of our whole earth, and the inconceivable bulk of "the god of day"?

246. — DESCRIPTION AND CULTIVATION OF SIZE.

LARGE — Are endowed with an extraordinarily accurate architectural eye; detect at one glance any departure from perfect accuracy and proportion; often perceive errors in the work of good workmen; can tell how high, wide, long, far, much, heavy, &c., with perfect accuracy; judge correctly, as if by intuition, the texture, fineness, coarseness, qualities, &c., of goods; excel in judging of property where bulk and value are to be estimated by eye: with Construction, can fit nice machinery, and often dispense with measuring-instruments, because accurate enough without, and do best on work requiring the most perfect accuracy; have an excellent eye for measuring angles, proportions, disproportions, and departures therefrom, and judge correctly of quantity in general; love harmony of proportion, and are pained by disproportion. It is necessary to artisans, mechanics, &c.

FULL — Possess a good share of this eye-measuring power, yet are not remarkable; with practice, do well, and in this respect succeed well in accustomed business.

AVERAGE—Have a fair eye for judging of bulk, distances, weight by size, &c., and with practice do tolerably well in it; without it, poorly.

MODERATE—Measure by eye rather inaccurately, and have poor judgment of bulk, quantity, distance, &c.

SMALL—Are obliged always to rely on actual measurements, because the eye is too imperfect to be trusted, and are almost destitute of this Faculty.

To **CULTIVATE**—Pass judgment on whatever involves how much, how heavy, how far, the centre, amount, architectural accuracy, especially of eye, as if you were determined ever afterwards to remember them; look at them critically, as a police detective looks at a rogue, as if saying to himself, "I'll know you next time."

THE PRUSSIAN METHOD OF CULTIVATING SIZE shows parents, teachers, and all others how to improve this Faculty. The pupils are taken to the fields, woods, mountains, &c., and asked how far it is to yonder tree, house, rock, &c. Each pupil takes a given position, and passes his judgment, which is recorded, and then the actual distance is measured, and all are required to look once more, by way of correcting and improving his eye as to distance, height, &c. Farmers can improve this Faculty by estimating the number of acres in a given field, the number of bushels or tons in a certain pile; butchers in estimating the weight of cattle, &c.; carpenters and masons in plumbing and building by the eye; landscape painters, drawers, in foreshortening and giving the perspective to their pictures; portrait painters in making them the size of life, and proportioning all the features; and thus of other callings. In short, to improve it, look at things with the view of estimating and applying this element to things.

THE STUDY OF GEOMETRY has to do mainly with measuring quantities, and of course comes more appropriately under this Faculty than any other, although it calls to its aid nearly all the intellectual powers. It should therefore form a constituent part of education, and even of children's plays. Let their playthings be so constructed that they can be put together into various geometrical figures, so as to solve its principal problems. Thus they can easily be taught to solve the problem that "the squares of the

two sides of a rectangular triangle are equal to the square of its hypotenuse," by having square blocks of any size, say an inch, and filling a hypotenuse, say of three inches, with nine blocks, or of five by twenty-five, and the other two sides similarly filled, will hold just as many more. Playing with geometrical blocks would soon render globe, cylinder, prism, cone, apex, segment, cube, pentagon, octagon, &c., as familiar as bread.

XXXI. WEIGHT.

247. — ITS LOCATION AND ADAPTATION, AND THE TRUE THEORY OF ASTRONOMICAL MOTION.

THE CLIMBER. — Balancing capacity; steadiness of hand; muscular control; marksmanship; intuitive perception and application of the laws of gravity, motion, momentum, &c.; ability to keep one's equilibrium in walking aloft, riding a fractious horse, skating, climbing, sailing, &c.; judgment of heft, resistance, density, hardness, weight, &c.; the shooting, hunting, and projecting instinct. Giddiness, staggering, liability to fall, seasickness, &c., are consequent on its disturbed or feeble action.

ITS POSITION is under the eyebrow, and next to Size, or about half an inch from the upper part of the nose, and between Size and Color. This rule correctly locates it and Color. Draw a perpendicular line from the centre of each eye up to the eyebrow. Weight is located *internally* and Color *externally* of this line under the eyebrows. It is usually less than Size, but large in sailors, acrobats, slack-rope performers, letterers, &c.

"THIS ORGAN is small, and situated internally to Size, above the orbit, towards the superciliary ridge. It gives a knowledge of the specific gravity of objects, and is of use in working with hands or tools; sculpturing, carving, turning, &c.; in using levers and machines; boxing, resisting tides and winds, steering ships, using bow and arrow, marksmanship, performing on musical instruments, engineering, lithography, mosaic work, &c. What are the simplest animal motions — walking, running, flying, swimming, &c. — but alternate disturbance and restoration of equilibrium?" — *Spurzheim*.

"IN blowing crown glass, workmen dip the end of a hollow iron tube into melted glass, and require to take up nine and one half pounds, and expert workmen, in whom Weight is large, rarely vary two ounces. Those in whom it is largest are least subject to seasickness." — *Combe*.

"I FOUND that, when at sea, by standing at the vessel's side, directing

my eyes to some still object on shore, as the top of a mountain, and with the palms of my hands shutting out all sight of the ship and sea, sickness was invariably dispelled, but always returned on withdrawing my hands. — *Cor. Ed. Phren. Jour.*

MUSCULAR CONTROL seems to be its precise office. All things material are governed by gravity. Our bodies are material, and therefore thus governed. Of course we must be somehow enabled to resist or employ this element, or else lie oyster-like wherever it places and keeps us. Without its aid, motion is impossible. Every single thing we do involves it. We could not live without it any more than without breath, for does not breathing, chewing, &c., involve it?

ITS ADAPTATION is to the natural element of gravity. Attraction forms a constituent element of matter. Without it, all bodies would rise as often as fall, and be incapable of being kept in any particular position, so that nothing could have been built or done; for what would have bound matter together? What else keeps the particles which compose bodies from being scattered throughout space, holds the ocean in its bed, and keeps rivers from ascending mountains and being scattered over hill and dale; causes rain to fall, instead of rising; binds things on the earth to its surface; retains it in its orbit, or renders it any way inhabitable? Or with this element in matter, but without its corresponding Faculty in man to put him in relation with it, so that he can perceive and apply it, he would have lain where gravity carried him, and been incapable of ever doing anything to resist its sway. He could neither have walked, nor even stood. But with this arrangement of attraction in Nature and this Faculty in man, he can convert the former to his service, resist wind and tide, manage machinery, and effect beneficial ends innumerable.

COHESION, that element which embodies matter into individual objects, of which all growth is but an exemplification, is but one form of this identical element.

ALL ASTRONOMICAL MOTIONS are its productions. Sun, moon, and stars move in obedience to its mandates, and all Nature, every particle of matter, and all celestial spheres, acknowledge its sway.

NEWTON'S CENTRIPETAL AND CENTRIFUGAL FORCE, however, do not expound its celestial laws of action. His demonstrations are

anything but demonstrative. I have yet to see the first man who even *thought* he understood them. Yet all mathematical truths are both demonstrable and understandable, while Newton's theory is neither, because it is not true. All geometrical problems are clear, while his are muddy and muddled, and lack *wherefore*. It virtually asserts that descending bodies increase their velocity, which generates a centrifugal force; that the greater the attraction, the greater the repulsion; that the descent of a stone shoots it sidewise; that centripetal force generates proportionate centrifugal — a theory contradicted alike by philosophy and fact. Centripetal force or attraction does *not* create proportionate centrifugal or repulsive force. Thinking reader, give your common sense to our exposition of the *modus operandi* by which all the heavenly bodies are moved through space. That motive power which keeps them in motion must be inconceivably great to hurl such huge orbs of matter through the fields of space as fast as astronomy tells us they are propelled. What generates and what regulates this stupendous power?

ELECTRICITY, Nature's great motive agent,⁸³ thus: All bodies are electric. The earth is powerfully magnetic, as is also the sun. The fundamental law of electricity is, that all bodies charged positively repel each other, while all positive and negative bodies are attracted to each other. This principle all concede. Let us apply it to astronomical motions.

THE SUN IS POSITIVE, and the source of all positive electric force; while the balance of the solar system is negative to it, and therefore most powerfully attracted to it, its largest bodies the most. This generates that all-powerful *centripetal* force which attracts all its members into the sun in proportion to their magnitude. Then what prevents their rushing right straight *into* the sun with all their velocity and momentum? Not Newton's centrifugal force, which would be only the merest atom of the power required, and weakened by proximity to the sun, but this same electricity *reversed*, thus: In proportion as any of them — the earth, for example — approaches the sun, he charges her with his *positive* electric state, so that both, being thus rendered positive, *repel* each other, and the more the nearer they approach each other. The nearer they come together, the more he electrizes her positivity like himself, which positive state of both repels him

from her, and her from him, thus rendering their collision an utter physical impossibility. Nor can members of the solar system ever collide with each other, because all are negative, and all negatives repel each other. When star-gazers tell you a comet is about to dash the earth to atoms, show him this page, and tell him to go about his business. Infinite Wisdom would have been unworthy of Himself, and all His other works, to have left such a collision at all possible ever. Would He, after creating all these innumerable forms of life thus exquisitely,¹⁵ suffer it to be slaughtered by wholesale! Mortals sleep, awake, plant, and gather without any earthly fear of celestial collisions. Man's railroad trains may collide, but God's celestial orbit-cars, freighted with life, *never*. Let us explain the particular workings of this electric law more in detail, and in both its aspects, for we have explained only one phase.

ALL CELESTIAL ORBITS ARE ELLIPTICAL, none spherical; whereas Newton's Principia could account only for spherical. The sun positive, the earth negative, these two opposite states draw them together; but the sun, being so almost infinitely the largest, is moved by and to the earth only the merest moiety, while the smaller earth is hurled by the sun with a velocity and power absolutely inconceivable. But the more she approaches him, the more their proximity renders her also positive, like him; so that they repel each other the more the nearer together they are. This positiveness of both generates that *rebound* which stops her rushing in to him, and pushes her off, with equal velocity, to the extremity of her orbit, where she now dissipates her positive magnetism gradually, loses it in the immense fields of space she traverses, thereby becoming again *negative* to him, which demagnetized state reattracts her back to him, and this slackens her eccentric speed, stops her going any farther, turns her round, and attracts her back to him, only to pursue those annual rounds which create summer and winter, seed-time and harvest, blossoms and fruits.

ALL MOONS bear a like relation to their planets, thus causing their rotations and changes, tides included. That gigantic motive power which hurls the earth and the entire universe of planets around their respective cycles, "from eternity to eternity," is generated by a self-acting principle. Thus it is that universal Nature

is as economical as prolific, and as saving of her means as bountiful in her products !¹⁶³

THIS THEORY IS UNDERSTANDABLE even by school-boys, while Newton's is not, even by savans. And it accounts perfectly for the *elliptical* orbits of all heavenly bodies. It equally and perfectly accounts for

THE EARTH'S DIURNAL ROTATION on its axis, which causes day and night, thus : The sun renders the light part of the earth, on which he is shining for the time being, positive, thereby generating a powerful repulsive force, which is perpetually turning and rolling the *light* part of the earth from the sun, while the earth's dark part, being always in a negative state, is perpetually attracted *towards* the sun ; these two opposite forces acting, one to push the light, the other to pull the dark, parts of the earth to and from the sun, and the most at midday and midnight.

How simple, yet profound, is this explanation ! Reader, it is respectfully laid at the door of your own common sense. At least think it over, and review it in connection with our application of this identical principle to the circulation of the blood already propounded, ay, demonstrated,⁸³ and then ask yourself whether, after all, this principle does not embody the true motive principle of the universe.

ALL MUSCULAR MOTION is undoubtedly effected by this precise means — electricity ; and the virtue of food probably depends on its furnishing electricity quite as much as organic material proper. The earth is highly electric,¹⁵⁵ and artificial electricity promotes the growth of all edibles, which probably embody that latent electricity which digestion sets free. At least, those who have perfect digestion can distinctly feel the flashes or waves of electricity emanating from all parts of the stomach like northern lights shooting up out of the north. Those terrible effects of arrested and disordered digestion seen in cholera morbus, dysentery, cholera, &c., are by no means all due to a non-supply of organic material alone, but mainly to the non-supply of electricity by the stomach.

THOSE SKIN-SPARKS caused by a rapid pulling off, in right cold weather, of woollen under-garments by a very healthy person, and the electric sparkling and snapping of their hair on combing the head in real cold weather, prove the great accumulations of elec-

tricity at the surfaces of right healthy persons, with but little of it in the feeble. Here are *facts* which all can observe, and they *mean* something important. We think our electric principle shows just *what* they mean, namely, the absorption or imbibition of that electricity which moves every muscle, executes every sensation, and creates all the functions and pleasures of existence.

LET READERS COMPARE our analysis and *rationale* of all the Faculties, and especially of those intellectual, and particularly of Weight, with all previous views of them, and say whether this work may not justly "report progress" in this great science of life.

248. — DESCRIPTION, CULTIVATION, &c., OF WEIGHT.

LARGE — Have perfect control over the muscular system, hence can climb or walk anywhere with safety; cannot be thrown by fractious horses; are sure-footed; never slip or fall; are a dead shot, even "on the wing;" have an intuitive gift for skating, swimming, balancing, circus-acting, hurling, riding velocipedes, everything requiring muscular control; are an excellent judge of perpendiculars and levels; can plumb anything by the eye; as a sculptor or other artist, always make the picture or statue in an easy, natural, and well-balanced attitude, and are annoyed if the mirror, pictures, &c., do not hang plumb: with Construction large, will succeed in any mechanical avocation requiring a steady hand, as in surgery, dental operations, sleight-of-hand performances, fancy glass-blowing, &c.; easily keep from falling when aloft or in dangerous places; are rarely seasick; naturally throw a stone, ball, or arrow straight; love to climb, walk on the edge of a precipice, &c.; with Form and Size large, are an excellent marksman; with Construction large, understand and work machinery; with Ambition large, are venturesome to show what risks can be run without falling, &c.

FULL — Have a good degree of this Faculty, and with practice excel, yet without it are not remarkable.

AVERAGE — Are like Full, only less gifted in this respect: with only average Construction and percepts, should never engage in working machinery, because deficient in this talent.

MODERATE — Can keep the balance under ordinary circumstances, yet have rather imperfect control over the muscles in rid-

ing a fractious horse, or walking a narrow beam aloft, hurling, &c.; feel unsafe when high up, because instinctively conscious that they manage themselves with difficulty; are liable to slip, stumble, and fall hard; feel dizzy when looking over a precipice, or are high up; are liable to have their heads turn or swim; often lose their poise, and control their motions poorly: with large Caution, are timid in dangerous places, and dare not venture far; are rather poor in shooting, skating, throwing, &c., unless rendered so by practice, and should cultivate this Faculty by climbing, balancing, hurling, &c.

SMALL — Are quite liable to seasickness, dizziness when aloft, &c.: with large Caution, are afraid to walk over water, even on a wide plank, and where there is no danger; never feel safe while climbing, and fall easily, and have very little control over the muscles.

TO CULTIVATE — Skate, slide down hill, practise gymnastic feats, balance a long pole on your hand, walk a fence, climb, ride on horseback and velocipede, go to sea, practise gunnery, archery, throwing stones, pitching quoits — anything to exercise this Faculty.

ITS CULTIVATION thus becomes important, especially in children. Instead of bracing up infants, let them hold themselves up, or else roll into uncomfortable positions till they learn better, and encourage them to stand, walk, run, climb, balance on your hand while you carry them round, thus compelling them to keep their "tarve." Yet most mothers forbid their climbing, exclaiming, "Take care; you'll fall!" Like that fidgety mother who charged her sons never to go near the water till they had learned to swim, these mothers, "more scart than hurt," command them not to climb till they have learned not to fall; whereas encouraging their climbing is the very way to prevent their falling, because cultivated Weight renders them safer aloft than on the ground with it uncultivated. When it is deficient they tumble down easily, a straw keeling them over, thus inflicting many an extra "bump" which might injure their minds for life. Instead of curbing an instinct thus useful, its training should form a part of their daily education as much as memory, &c. Spartan youth were compelled to perform some feat of archery before allowed their breakfast. Let boys, and girls, too, slide, skate, climb,

wrestle, race, use stilts, ride velocipedes and on horseback, perform circus feats, jump the rope, &c., and adults improve and make occasions for its exercise.

XXXII. COLOR.

249. — ITS LOCATION, PHILOSOPHY, DESCRIPTION, AND CULTIVATION.

THE PAINTER. — Perception, love, recollection, and application of colors; ability to discern and compare their tints and shades, match colors by eye, paint, &c. Its location is given under Weight.

IT IS LARGE in Rubens, but small in Brunell and Stratton, neither of whom could discern colors. Stratton abandoned the crockery business because of this deficiency. A lady, shown a wash-bowl and pitcher, wanted one of this pattern, but another color. Unable to distinguish any color but green, he brought one at a venture, but ventured wrong, when she turned indignantly, and walked out. An excellent New Haven draughtsman can see no difference between red and brown-colored books and a green table-cloth under them, or red cherries and green leaves.

“AT VIENNA, I particularly observed that all distinguished colorists had the frontal part, immediately over the middle of the eye, advanced into an arched prominence; the whole arch, and especially its external half, directed upwards, so that it was higher than the internal. Though when I made this discovery, I had no idea of the form or direction of the cerebral convolutions, yet I afterwards discovered a little convolution in the region indicated, projecting outwards, and from a half inch to an inch in diameter, and in all my travels found that this organ distinguishes the harmony and agreement of colors. All passionate amateurs and famous painters, of both sexes, have the region directly above the middle of the eyebrows extremely prominent, especially as it approaches the superciliary ridge; while in those not thus distinguished, this ridge has almost a horizontal direction, from the root of the nose to near the middle of the superior arch of the orbits.

“IN WOMEN, it is generally larger than in men; hence their eyebrows arch more than those of men, and they accordingly take more pleasure in the happy combination of colors; love flowers the best, and are more pleased with various colors in dress; and always prefer colored portraits to busts, besides distinguishing themselves in the art of coloring. This organ is generally large in the Chinese, No. 116, their superciliary ridges being strongly drawn upwards, especially in their external

half, and all know how prodigal they are of colors. They paint even their statues, and surpass all European nations in the art of dyeing.”
— *Gall*.

“SOME can scarcely perceive colors. All of a family I know can distinguish only black and white. Dr. Unzer cannot discern green from blue; and admirable draughtsmen are often vile colorists, though sight may be good. Goethe relates that mosaic workmen in Rome employ fifteen thousand varieties of colors, with fifty shades to each, or seven hundred and fifty thousand shades, and even this profusion is sometimes deemed insufficient. It is situated in the middle of the arch of the eyebrow.” — *Spurzheim*.

“THIS Faculty, when powerful, gives delight in viewing colors, and a vivid feeling of their harmony and discord. To observe its development, note how far the centre of each eyebrow projects forward.”
— *Combe*.

THOUSANDS OF TIMES, in public and private, I have predicated its almost total deficiency, saying, “This gentleman can scarcely distinguish the different colors, or select ripe cherries from green, or tell the color of his wife’s eye,” without once mistaking the facts in the case. Mr. Milne’s maternal grandfather could not discern colors, yet his mother and her brothers could, while he could not; was obliged to give up the draper’s business because he could not tell colors, yet became a superb brass founder, and his masks, sold in shops, show its marked depression. It is very large in Rubens, but small in Stratton.

ITS ADAPTATION is to the element of color, which inheres in matter; is thrown broadcast over all Nature; tinges, variegates, and incalculably beautifies the flowers of the field with its ever-varying tints and shades; renders all vegetation verdant and delightful; skirts our auroras and vespers with its golden hues, and paints the gorgeous skies and rainbows with the pencillings of divine beauty; crimsones the rosy cheeks of health with indescribable loveliness, their beautiful colorings being one of their chief attractions; in short, constitutes a necessary ingredient of matter, and appertains to every material thing. Without it how cheerless and dreary our fields and the face of creation, and how blanched the human cheek! But colors exist, and this primary mental Faculty puts man in relation with them, and enables him to perceive, apply, and take delight in them; than which few things yield equal pleasure or profit, or equally refine, elevate, and purify the mind. Though natural philosophy does not mention

it, yet it exists, and constitutes as integral a part of matter as does gravity; for nothing can be without being colored, inside as well as out, and the colors of the rainbow are *constitutional*, not incidental; inherent in matter, not an accident.

THE ART OF PAINTING has been found coeval with the race. The New Zealander tattoos, or imbeds certain colors into his skin; Indians often paint, or rather daub; Greeks and Romans loved and practised it enough to give it a goddess in Minerva; the dark ages patronized it; moderns pay princely sums for splendidly colored pictures; and the entire race, as far as traced, have been about color-and-flower-crazy. Here, then, is a strong human sentiment, as well as a separate attribute of Nature, both of which pre-suppose a distinct mental Faculty and organ, created expressly to preside over this specific department of humanity.

THE LESSONS it teaches are many and most useful. It reveals the qualities of things with unmistakable precision. We have already applied this principle to the complexion, and the color of the eyes and hair.⁵⁹ Each color indicates its determinate characteristic. Thus green, as applied to vegetables and fruits, indicates immaturity, while yellow denotes ripeness; for grains, grasses, and many fruits, in passing from greenness to ripeness, become yellow, and yellow fruits are generally luscious. Red accompanies sprightly acidity, of which strawberries furnish an illustration, and blackberries remain green while green, becoming more red as they become less green and more ripe, and turn black as they ripen. *Black*-berries are thus *green* when they are *red*, and *red* when green, and *black* when ripe. In short, Nature colors all her productions, inside and out, and their colors invariably correspond with their qualities; her coarse articles being painted in coarse drab, while she adorns all her finer, more exquisite productions with her most beautiful colors. Thus, highly-colored fruits are always highly-flavored, and birds of the highest quality are arrayed in the most gorgeous tints and hues. Each color also signifies a particular quality. Thus, throughout all nature, *black* signifies power, or a great amount of its characteristics; *red*, the ardent, loving, intense, concentrated, positive; *green*, immaturity; *yellow*, ripeness, richness, &c. Whatever is growing, or still immature, is green; but all grasses, grains, fruits, &c., pass, while ripening, from the green to the yellow,

and sometimes through the red. Fruits red and yellow are always delicious. Other primary colors signify other characteristics. But we have already incidentally presented and applied this principle.⁵⁹

250. — DESCRIPTION AND CULTIVATION OF COLOR.

LARGE — Have a natural taste and talent, as well as a perfect passion, for whatever appertains to colors; can carry them perfectly in the eye, and match them from memory; take the utmost delight in viewing harmonious colors, and with very large Construction, Imitation, Form, and Size, and large Weight, a full or large-sized brain, and organic quality large, have a natural taste and talent for painting, and are a real genius in this line; with Comparison large, can compare them closely, and detect similarities and differences; with Form and Size only average, can paint better than draw; with Beauty large, are exceedingly delighted with fine paintings, and disgusted with imperfect coloring; with large Form and Size, manage the perspective and lights and shades of painting admirably, &c.

FULL — Possess a good share of coloring ability and talent, provided it has been cultivated; take much pleasure in beautiful flowers, variegated landscapes, beautifully-colored fruits, &c.

AVERAGE — Possess a fair share of this talent, yet are not extraordinary.

MODERATE — With practice, may judge of colors with considerable accuracy, yet without it will be deficient in this respect; with large Form, Size, Construction, Beauty, and Imitation, may take an excellent likeness, yet will fail in its coloring, &c.

SMALL — May tell primitive colors, yet rarely notice the colors of dresses, eyes, hair, &c.; cannot describe persons and things by them; evince a marked deficiency in coloring taste and talent; and can hardly tell one color from another.

TO CULTIVATE IT — Observe color in general, and its shadings in particular; try to appreciate their beauties, and enjoy their richness, as seen in flower, bird, fruit, lawn, twilight, everywhere, and cultivate an appreciation of fine paintings.

ITS CULTIVATION should be as assiduous as its enjoyments and benefits are great. It can be increased only by its exercise, and exercised only by studying, admiring, and luxuriating

on that exhaustless and ever-varying richness and perfection of coloring with which Nature paints the flowers of the field, the exquisite beauty of which "Solomon in all *his* glory" could not equal; the fruits and the frost-tinged foliage of autumn, birds and animals, flower-spangled prairies, star-spangled skies, and all the other works of His almighty hands. Let young and old study botany, so full of absorbing interest, unalloyed pleasure, and useful instruction; as well as cultivate flower gardens both for health and moral elevation, and encourage the young to plant, tend, and admire them, weave them into bouquets, and paint; besides furnishing them with *well-painted* picture books, in place of those miserable daubs now furnished them. Let painting be generally practised, especially by women, for all are endowed with more or less of this gift, and let artists both be multiplied a thousand fold, and liberally patronized, so that they can devote their entire energies to the cultivation of this refining art. Let artificial flowers be made and worn abundantly, and rich vases executed.

CHEEKS BEAUTIFULLY PAINTED, not daubed with rouge, but colored with bright scarlet and blushing pink, vanishing off into pure lily white, as only perfect female health alone can paint them, however, constitute the most beautiful coloring mortals can ever behold this side of heaven, and can be secured simply by *observing the laws* of female health. Maids and matrons have only not to *rub off* the paint Nature has already put on. Yet those who by violating the physical laws have lost the rosy hues of health and beauty, can restore them by *air and exercise*. Pallid cheeks indicate inactive lungs, and can be repainted temporarily by facing cool breezes, and permanently by facing them often, as well as rendered plump and glossy.

XXXIII. ORDER.

251. — ITS DEFINITION, LOCATION, DISCOVERY, PHILOSOPHY, &c.

THE REGULATOR. — Method; system; arrangement; observing business and other rules, laws, customs, canons, &c.; having places for things, and everything in its own place. When excessive and perverted, it makes one more nice than wise, a slave to

system, tormented by disorder, and perpetually worked and worried all out in keeping every little thing just so, and wearing out constitution on floors, and temper on system.

LOCATED externally from Color, and beneath the junction of those bony superciliary ridges which come down the sides of the head, with the arch of the eyebrows — that is beneath the eyebrows, right above the outer angles of the eyes. When very large, it forms an arch, almost an angle, in the eyebrows at this point, accompanied by its projection or hanging over, as in Astor and Herschel, just internally of Computation. It is large in Captain Cook, and immense in Lord Brougham, and also in Rufus Choate (No. 79), Agassiz, Humboldt, Kant, and others. When small, the eyebrows at this point retire, and are straight and flat, wanting that arched projection given by large Order.

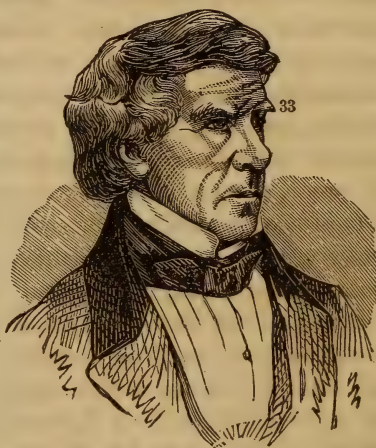
GALL says facts indicate that Order depends upon a primary Faculty, yet that the superciliary ridges prevent a positive decision respecting it; and none of the phrenological fathers give it more than a cursory notice, or seem to have at all apprehended its true scope or rationale.

"SOME persons, and even children, like to see every piece of furniture, every dish at table, every article about their business, in its proper place, and are displeased by disorder. The savage De l'Aveyron, almost an idiot, could not bear to see a chair or any other article out of place, and voluntarily righted it at once. It gives only physical order, as to looks," &c. — *Spurzheim*.

"JAMES Low had this organ large, and observed his appointments punctually; wrote with neatness and care; kept his accounts with inviolable regularity; dressed neatly, and regulated his wardrobe with particular care; and manifested regularity in all his domestic and professional affairs. Its large development produces a square appearance at the external angle of the lower part of the forehead." — *Combe*.

ITS ADAPTATION is to Heaven's first law. Method and uniformity pervade all Nature, and stamp their regulating impress upon every work of God. Perfect system reigns supreme in the heavens

ORDER LARGE.



No. 179. — LORD BROUGHAM.

above and on the earth beneath ; and has reduced to perfect order what would otherwise have been perfect chaos. It arranges a place for everything that is, and then puts and keeps all things in their places. Every star has and keeps its own place in the firmament, absolute and relative. Every part and organ of every created thing is always in its assigned place — feet at the bottom and head at the top or front of all, and eyes in the upper and frontal parts of the forehead ; not sometimes in the back of the body or soles of the feet. What if a bone had been omitted here and transposed there, the thigh bone often in the back, and head and feet where the other should be, or heart outside or wrongly placed inside of the body ! Limbs, leaves, fruit, bark, body, roots, all things that grow, are methodized to a dot in and by their very formation itself. Rivers are in their places, and mountains in theirs, and the minutest parts of the minutest insects are just where they should be. Indeed, but for this institution of order, all creation would have been one vast bedlam, one grand chaos of “ confusion worse confounded,” to the complete destruction of its beauty, perfection, and utility. But this arrangement brings forth beauty out of deformity, and harmony out of chaos, so that all Nature moves onward with a methodical precision as perfect in itself as it is beneficial to man. Yet even with this arrangement of order in Nature, but without this Faculty in man adapting him to it, he could neither have applied nor even perceived it, much less converted it to beneficial ends. But both united enable him to incalculably augment his happiness through their instrumentality.

ALL BUSINESS AFFAIRS demand perfect system, which also acts as a safeguard against cheating, prevents dissatisfaction and wrangling, and promotes business success in ways innumerable. No business or manufacturing man or firm, nor even a farmer, need ever hope for success without first reducing everything to system. That industrious farmer who repairs fences and keeps his implements in order and place will thrive. If he tells John to yoke the oxen, and John asks where the yoke or chain is, that is, if John does not know beforehand where to find hoe, axe, scythe, rake, &c., down to the hammer and nails, mark it when you will, that farmer will fall behindhand, if not fail. But those who know just where to find whatever they want to use, because they WILL KEEP order, prosper ; for system facilitates despatch and doubles the

work done ; whereas disorder WASTES time and is ruinous in its very nature. But business men understand its value and necessity already. Yet

HOUSEHOLD order is neither duly appreciated nor observed. Every family, to be happy, must establish and abide by certain rules. Parents cannot well be too exact in seeing that all observe good rules ; merely arbitrary ones should never be adopted. Women, usually tidy enough, are often not sufficiently systematic. They look neatly when dressed, but often lay this off here and that there, so that when they come to go out again, they "can't find" their things. The "Friends" usually have this organ large, and are very precise and methodical in family, business, conduct, everything, and their women, as a class, are the best house-keepers in the world. How infinitely more pleasantly that family lives when all always return hammer, screw-driver, broom, everything to its own place, so that all know just where to find and put things !

YET "TOO MUCH of this good thing" has worked many superb women literally to death, and made many others fretful all their lives.

GOVERNMENTAL "law and order" constitute one of its aspects. It regulates actions and moral conduct by certain rules or "laws." All laws, human and divine, originate primarily in this Faculty. All laws, legislation, church canons, by-laws of all societies, &c., are its offspring, as are all parliamentary rules of all deliberative bodies.

ALL MENTAL OPERATIONS are regulated by it, except mere helter-skelter dashes. In every paragraph every word has its proper place, as has every paragraph in every chapter, and chapter in every book ; and a cardinal point in authorship consists in putting each chapter, paragraph, and word into its appropriate connection.

ITS LOCATION by the side of Time indicates their conjoint action ; of which we shall speak when we come to analyze that Faculty.

252. — DESCRIPTION, CULTIVATION, AND RESTRAINT OF ORDER.

LARGE — Methodize everything ; are law-abiding ; governed by rules ; perfectly systematic, and very particular about order, even

to old-maidishness ; work far beyond strength to have things just so ; conduct business on methodical principles, and are systematic in everything ; and with large Beauty and an active Temperament, and only fair Vitality, are liable to break down health and constitution by overworking in order to have things extra nice, and take more pains to keep them in order than it is worth ; are more nice than wise, and fastidious about personal appearance, as well as extra particular to have every little thing just so ; and with Acquisition added, cannot bear to have garments soiled, and are pained in the extreme by grease-spots, ink-blots, and like deformities ; with large Acquisition and Causality, have good business talents ; with large Locality, have a place for everything, and everything in its place ; with large Time, have a time for everything and everything in season ; with large Continuity, Comparison, and the mental Temperament, have every idea, paragraph, and head of a subject in its proper place ; with large Construction, put and keep tools always in place, so that they can be found in the dark ; with large Force, are excessively vexed by disarrangement ; with large Expression, place every word exactly right in the sentence ; with large Ambition, conform to established usages ; with large Size, must have everything in rows, at proper distances, straight, &c. ; and with large Beauty, must have everything both nice and methodical.

FULL — If educated to business habits, evince a good degree of method, and disposition to systematize, but without practice may sometimes show laxity ; with a powerful mentality, but weaker muscles, may like to have things in order, yet do not always keep them so ; with large Causality added, show more mental than physical order ; with large moral organs, like to have religious matters, codes of discipline, &c., rigidly observed, and have more moral than personal method ; with Acquisition and percepts large, are methodical enough for all practical purposes, yet not extra particular, &c.

AVERAGE — Like order, yet may not always keep it, and desire more than is practically secure.

MODERATE — Often leave things where they were last used, and lack method ; with Beauty moderate, lack personal neatness, and should cultivate this desirable element by being more particular, but with large Beauty are more neat than systematic.

SMALL—Have a very careless, inaccurate way of doing everything; leave things just where it happens; can never find what is wanted; take a long time to get ready, or else go unprepared, and have everything in perpetual confusion, and almost wholly lack arrangement,

THIS FACULTY LIKES order, yet may not always keep it; perhaps on account of sluggishness and indolence, or because of extreme activity and consequent *perpetual hurry*. *Desire* for order, therefore, measures its power; yet desire generally secures the thing desired.

TO CULTIVATE—Methodize and arrange everything; be regular in all your habits; cultivate system in business; have a place for everything, and keep everything in place, so that you could find it in the dark; in short, exercise order.

TO RESTRAIN—Work and worry less to keep order, for it costs more to keep it than it is worth. You waste your very life and strength in little niceties of order, which, after all, amount to little, but are costing you your sweetness of temper, and very life itself. Figure up which is worth the most, more order with less selfhood, or more selfhood with less order, and act accordingly.

ITS CULTURE IN CHILDREN can be greatly promoted by giving each one his or her own room, closets, bureau, and things, and then holding each responsible for order in them; but where two or more room together, each blames the other for their disorderly room, for which neither feels responsible. And furnish them plenty of places for their things. One of the chief evils of house-keeping is want of places for things, that is, having more things than places—an evil our octagonal plan obviates by furnishing abundance of closet room, and just *such* shaped closets as are required.²⁸⁰ Screwing ordinary clothes-hooks by dozens upon a board, and nailing it, hooks *down, overhead* in your closet, a stick will enable you to hang up and take down things not too long to be in your way. And plenty of these hooks inside your closet door, and all over the house, “come handy.”

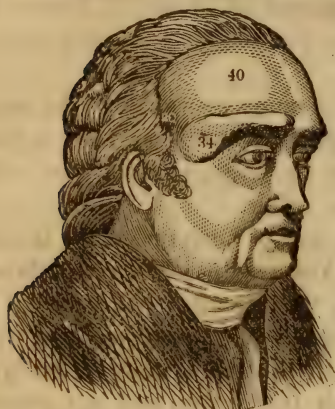
XXXIV.—COMPUTATION, OR “CALCULATION.”

253.—ITS LOCATION, ADAPTATION, DESCRIPTION, CULTIVATION, &c.

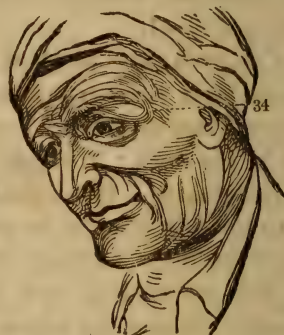
THE ARITHMETICIAN; Mental arithmetic; cognizance of num-

COMPUTATION LARGE.

LARGE.



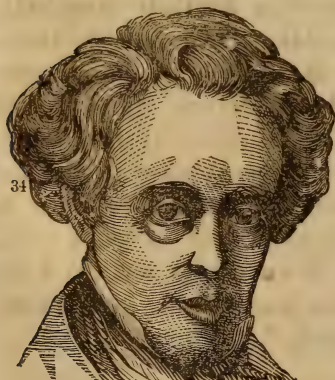
No. 180.—HERSCHEL.



No. 181.—MATHEMATICIAN.

bers; numerical computation; reckoning figures in the head; disposition and ability to count, add, subtract, divide, multiply, and cast accounts; memory of Numbers; perception of numerical relations.

SMALL.



No. 182.—GEORGE COMBE.

ITS LOCATION is external to Order, and under the outer ends of the eyebrows, which it elongates laterally, and flexes horizontally in proportion as it is developed, as seen in the accompanying engravings of Herschel and Kant, yet when deficient, as in Combe, the eyebrow is left short externally, does not project beyond the eye, and terminates running *downwards*.

“ITS CONVOLUTION is a continuation of the lowest convolution of Music, and is placed on the most external part of the orbital plate, in a furrow running from before backwards. When it is very large it de-

presses the external part of the plate, so that the superorbital arch is irregular, except in its internal part; its external line representing a straight line, which descends obliquely. Hence the external part of the eyelid is depressed, and conceals the corresponding part of the eye. This character is the more infallible when the external part of the orbit is pushed outwards, so that the salient angle of the superciliary arch projects beyond the anterior part of the temple. Yet this projection does not exist when Music or Construction is large."

"A ST. POELTON SCHOLAR, a nine-years-old son of a blacksmith, of only common education, and ordinary in every other respect, when given three numbers, each expressed by ten or twelve figures, to add them, to subtract, two by two, then to multiply and divide by numbers containing three figures, gave one look at the numbers, raised his eyes and nose in the air, and announced the result of his mental calculation before my auditors could make the same calculations with their pens. He had created this method himself. He astonished the inhabitants of Venice. He said he saw the numbers as if they were written on a slate."

"AN ADVOCATE expressed his vexation that his son, only five years old, occupied himself exclusively with numbers and calculations, and that it was impossible to fix his mind on anything else, not even play. I compared this child's head with the first, and could find no other resemblance between their heads than a remarkable prominence at the external angles of the eyes, and immediately at the sides. The eyes of both were covered by the superior lid at its external angle. These and similar coincidences suggested the idea that a talent for calculation might be a fundamental Faculty, dependent on its organ. I sought out other tests, and found this same conformation in Mantelle, whose favorite occupation was to invent and resolve problems of mathematics, and particularly arithmetic. I found the same conformation in Vega, Professor of Mathematics, and author of tables of Logarithms, who was an ordinary man in all other respects. I examined those in families and schools remarkable for this talent, and found the same external signs. How could I help considering this a peculiar Faculty, having its special organ?"

"IN ZERAH COLBURN, whose head I had drawn and modelled, it is very large, and his calculating powers are astonishing.* Devaux took the greatest pleasure in detecting erroneous accounts. They brought to D'Alembert a young shepherd who also had an astonishing Faculty for calculation, who corrected D'Alembert's reckonings. Who will attribute this gift in these children to all their Faculties taken collectively? Peter Armich, a Tyrol shepherd, became famous for his astronomical calculations, even though he did not know the name of either. Twelve years ago a negro caused a great sensation in London by his astonishing calculations. Schubler voluntarily applied himself to mathematics, and especially the higher departments of algebra, devoured mathematical works, and labored ten years to improve the differential and integral calculus. Inborn mathematical talents, like all others, manifest them-

* "DR. GALL, the Phrenologist, was introduced without any previous intimation of my peculiar talent, and readily discovered on the sides of the eyebrows certain protuberances which indicate the great development of a Faculty of Computation." — *Colburn's Autobiography of his Travels*, p. 76.

selves early, and create an irresistible inclination for their cultivation. They always had a peculiar charm for Pascal, who, from the mere definition of geometry, discovered as far as the thirty-second proposition of Euclid. He was hardly nineteen when he invented the *Roulette*, a machine by which he made all sorts of arithmetical computations without a pen, or even knowing arithmetic. Galileo was born a natural mathematician. Lalande, at nineteen, was appointed Berlin commissioner with La Carle to determine the moon's parallax. Tycho Brahe and Euler had from infancy an irresistible inclination to mathematics." — *Gall.*

"Sir W. Ainslie met a boy in a stage-coach in whom this organ projected like half of a common sized marble, which it resembled, and who could multiply six figures by six others without a pencil." — *Ed. Phren. Journal.*

"George Bidder was brought to me, with two others, to see if I could select Bidder. I replied that in one Number was deficient, in another full, and that the other must be Biddler, because it was extraordinary in him; and the first was dull, the second good, and the third Bidder, who, without any previous training, could solve the most complicated problems in algebra without annotation in from a minute to a minute and a half! and showed extraordinary talents for mental calculations. The five-year-old daughter of an Edinburgh lady of rank remembers the numbers of the residences of three hundred ladies, which she tells correctly the instant the name is called. The child had Number large. In two individuals, myself one, it is deficient, and who experience great difficulty in solving the most ordinary arithmetical questions; could never learn the multiplication table; nor readily perform common addition and subtraction even after persevering efforts. It assists Time and Eventuality in recollecting dates." — *Combe.*

"Negroes do not generally excel in arithmetic, and their heads are narrow at this organ." — *Spurzheim.*

"THE CHAYMAS, a Spanish port of South America, have great difficulty in comprehending numbers. The more intelligent count as far as 30, or perhaps 50, with apparently a great mental effort. The corner of their eyes is sensibly raised *up* towards the temples." — *Humboldt.*

Number is small in all the Esquimaux. Parry and Lyon both say their eyes turn up at their external angles, and they resolve all numbers above ten into one comprehensive word. Ross says the Arctic Highlanders can reckon only five. Crantz says that Greenlanders can count only five, unless it is by counting the fingers on both hands, and toes on both feet; anything above that is innumerable. Animals and birds obviously count, especially the magpie and dog. All Phrenologists regard this organ as fully established; yet the distance from the outer terminus of the eyebrow to this organ, consequent on the thickness of the superciliary ridge at this point, somewhat obstructs its observation.

ITS ADAPTATION is to that natural attribute by which things can be counted, added, subtracted, divided, and multiplied. Number appertains to everything, and computes all things in Nature. Things *are* one, two, fifty, &c., and man cannot help regarding them as such. This numerical attribute is inherent in things, and man has a mental capacity for perceiving and computing them; but for which he could not perceive the difference between one and millions, nor even take cognizance of one or many as such. Blot it out, and man could perceive no difference between two cents and hundreds of thousands of dollars, which would utterly preclude all commercial transactions, surveying, &c.; whereas with both this numerical arrangement in Nature, and reckoning Faculty in man, we can count and reckon numbers *ad infinitum*, arrange things numerically, solve arithmetical problems *ad libitum*, and transact business illimitably. What could man do without both this natural institute and mental Faculty?

NATURAL PHILOSOPHY claims to have enumerated all the inherent properties of matter, yet has omitted over half of them. It analyzes configuration, divisibility, and gravity, but omits color, order, number, and position, each of which latter is as inseparable from matter as is any attribute it does mention. Thus did or could ever anything exist without being one by itself, or else the first, last, or some other number among the other things with which it stands related? Every dollar of a million dollars maintains its inherent number among them all, as all can see in every pile of money or anything else they count. In short,

COUNTABILITY is both an innate attribute of things, and man has a primal mental Faculty which perceives and puts him in relationship with numbers, and enables him to compute. This specific class of functions, gift, genius, is conferred by this Faculty. It "figures up" accounts, costs, dues, &c., in the head, often more correctly and rapidly than with pencil; gives the Zerah Colburn method of arriving at arithmetical results; and confers the talent for mental arithmetic; while those in whom it is deficient dislike figurers, reckon them slowly, and often make mistakes; forget sums just worked out; and become confused by numbers. George Combe, though so eminently profound as a thinker, lawyer, and lecturer, could not even count his tickets and money, and sent the gross receipts of his lectures to his hall-owners, printers, &c., for each to *take out* of them what was due each.

WE CHANGE ITS NAME from "Calculation" to Computation, both because the latter word is more expressive of its true function, and the former often used to express the calculations of cause and effect, as well as of numbers, the former thus being ambiguous, the latter not. "Number" is not broad enough to fully express it. We have no English word perfectly expressive of it. It aids in geometry and the higher mathematics; but they depend mainly on the other intellectual organs.

LARGE — Possess this calculating capability in an extraordinary degree; can add several columns at once rapidly and correctly, and multiply and divide with equal intuitive powers; love mental arithmetic exceedingly, and with large Locality and reflectives are a natural mathematician, and with large Form, Size, Construction, and Imitation added, are a natural surveyor and civil engineer, excel in mental arithmetic, in adding, subtracting, multiplying, dividing, reckoning figures, casting accounts, &c., in the head; with large percepts, have excellent business talents, &c.

FULL — Possess good calculating powers; with practice, can calculate in the head or by arithmetical rules easily and accurately, yet without are not remarkable; with large Form, Size, Comparison, Causality, and Construction, can be a good geometrician or mathematician, yet will do better in the higher branches than merely the arithmetical.

AVERAGE — Can learn arithmetic and do quite well by practice, yet are not naturally gifted in reckoning figures.

MODERATE — Add, subtract, divide, and calculate with difficulty; and with large Acquisition and percepts, will make a better salesman than book-keeper.

SMALL — Are dull and incorrect in adding, subtracting, dividing, &c.; dislike figuring; are poor in arithmetic, both practical and theoretical, and should cultivate this Faculty; and can hardly count, much less calculate.

ITS CULTIVATION, therefore, becomes exceedingly important, and should be vigorously prosecuted by all through life. To do this, add, subtract, divide, multiply, count, and reckon figures in the head as far as possible, and learn and practise arithmetic; rely upon the head both for casting and remembering accounts, as well as embrace and create opportunities when riding, walking, sitting, &c., to calculate mentally; time your speed by the mile-stones, and reckon from the data thus obtained how many miles per hour, day,

month, &c., or count the number of rails in a crook of fence, or crooks per mile, and make similar calculations frequently. Or if to reckon dollars and cents is more agreeable, as aiding Acquisition, calculate the price of such things as you have occasion to buy, sell, or exchange; cast the cost of goods at different prices and in different quantities; reckon in your head the prices of what you buy and sell, &c. Clerks and business men in particular should practise this or a kindred course. Arithmetical rules, with slate and pencil, may perhaps be occasionally employed as ASSISTANTS merely, but rarely, if ever, as principals. Colburn's Mental Arithmetic exceeds all other computing systems, both for strengthening Computation and facilitating business. Besides these exercises, charge your memories with amounts due, prices, statistics, the numbers of houses, dates, and everything appertaining to figures. In short, exercise this Faculty more and more the more you would improve it. The extent to which its power may be carried by these means is truly astonishing. The Author knows an ignorant but sensible man, unable to read, write, or cipher, who has often done business to the amount of hundreds of dollars per week, but who keeps most of his transactions in his head, and says he never had any confusion in his accounts till he trusted to books kept by his son-in-law. When young and at work by the year he took up wages as he wanted, but made no minute except in his head, yet usually found his recollections agreed with the books kept by his employers. Mr. White, an excellent dentist in Philadelphia, says that his wife's uncle, though unable to read or write, has done business to the amount of hundreds of thousands annually, yet was never known to mistake the exact amount due either from or to him till he became intemperate. The Missionary Herald of June, 1843, speaking of the Gaboon merchants, a tribe on the coast of Africa, states as follows: "There are a few who transact business to the amount of twelve or fifteen thousand dollars a year. How they manage a business of this extent, mostly in the smallest fractions and driblets, without the aid of any written accounts, is very surprising. It is done, however, and with the utmost accuracy, without any other aid than that of the memory."

Is there, in the light of these facts, any end to the extent to which this Faculty may be improved? Shall civilized life fall behind African savages in this respect? But we do not properly exercise it, and hence its deficiency.

"A MATHEMATICAL MARVEL. — We were called upon on Monday by Mr. Peter M. Deshong, a young Pennsylvanian, already widely famous for his wondrous dealings with figures. He is not singular in his ability to solve any mathematical problem INSTANTLY, — Zerah Colburn and others have done that before him, — but he assures us that he can IN HALF AN HOUR impart his skill to any one else, which no other, within our knowledge, has been able to do. He will add up a sheet of figures as fast as he can set down the product, divide or multiply any number by any number in five seconds, extract the cube or square root of any string of figures you may set down far quicker than you can set them down; in dividing, give you the remainder first and the dividend afterwards, &c., &c. This is something more than a wonder — it is a gigantic advance in the means of acquiring knowledge. We had mentally given up the idea of ever adding to our humble stock of knowledge in this line; but we shall learn Mr. Deshong's secret or system the first half hour we can devote to it. Every clerk and accountant, to say nothing of other classes who require or may need some knowledge of figures, should acquire it." — *New York Tribune*, 1843.

TO TEACH CHILDREN ARITHMETIC, do not wait till they are old enough to cipher, and then require them to work out sums with the slate and Arithmetic, but teach them to count young, which all children love to do, and proceed practically, step by step, as they can comprehend the elementary principles of numeration. Nature incalculably excels art. Hence, teach them to calculate mentally first, and by slate and rules afterwards. This calculating in the head so little, and mechanically so much, causes and accounts for its general feebleness; whereas fully to develop its original powers by ample exercise would render men so expert in casting and recollecting accounts mentally as almost to supersede "book-keeping by double entry." Pursue this course in teaching arithmetic, and then let it be duly cultivated through life, and the power both to calculate and remember would be so great as to allow us to dispense with this wearing system of "keeping books," which is now eking out the lives of so many thousand clerks by wretched inches. A majority of our merchants are dyspeptic. Standing or sitting bent over their desks, especially while growing, is one cause. This growing evil should be obviated by calculating mainly in the head.

PAYING DOWN would incalculably save time, health, and money, by closing all business *on the spot*. Fewer clerks could do much more business, and also save the precious lives of thousands now putting their very being into account books. Placing all business upon the cash system would also prevent the accumulation of those overgrown fortunes so injurious to both rich and poor, by enervat-

ing and vitiating the former, and locking up the comforts and even necessities of life from the latter in the coffers of purse-proud capitalists. The credit system requires large profits to cover its "heavy losses," and thus compels good customers to pay up fully the "bad debts" of those who are too indolent, or visionary, or unfortunate, or dishonest to pay their own bills. Paying customers support non-paying as effectually as if the latter were town paupers; but requiring "cash on the nail" would prevent men from getting goods till they had first earned them; which would check speculation, prevent hard times, promote and even compel industry and frugality, "head off" dishonesty, and cheapen all we buy at least one third. Men could then do a large business on a small capital, which would increase competition; could turn their money often, which would enable them to sell at a small profit; and effectually distribute property instead of concentrating it; because when a man carries his money in his hand, he can and will buy cheap, and thus keep in his pocket the extra profits required to support the credit system. Hence, as buyers are the masses and sellers the few, this course would keep property diffused, instead of concentrating it, as does the credit system. This here's-one-thing-and-there's-another system would annihilate both poverty and extravagance; whereas the credit system renders the poor still poorer, and the rich very rich, and thus curses both.

TOO MUCH BUSINESS is now done. One Chinese mark of ton is to wear the finger nails so long that they must also wear them in protecting sheaths, all of which are useless, because the nails they protect should be cut off. Hence, all the business done in manufacturing, wholesaling, transporting, and retailing them throughout the empire is useless, and should be dispensed with. So of lacing apparatus among us, which is instanced because so much worse than useless, and a misuse of time and human energy; and thus of a thousand other superfluities. "NATURE's wants are few;" but man's purely artificial, and therefore injurious desires are many, and create most of our business. Dispensing with all these extras, and paying down for the necessities of life, would save an incalculable amount of human time and life, which could be so employed as vastly to augment human happiness.

"BUT THIS DECREASE of business would throw the poor out of employ, and thus inevitably starve them. These superfluities of the rich are bread and life to the poor."

Then pay the poor just as much for doing what is really beneficial in itself, as now for their incessant toil; and give them the surplus time thus saved for intellectual and moral improvement, those great ends of man's creation.^{196, 238} Unless the time thus saved by these cash and curtailing principles can be converted from this oppressive labor to a better use, and rendered subservient to human mentality and happiness, its economy is of little account. If men will squander their precious time and energy, as well waste it in "keeping books" and this extra business as any way; but if they would thus save them, and then expend them in moral and intellectual improvement, how inconceivably more happy they might render themselves!

254. — THE OCTAL SYSTEM OF ARITHMETIC FAR SURPASSES THE DECIMAL.

ABSOLUTE SCIENCE governs every department of Nature; this department of numbers of course included. Mathematics is a natural science. "Figures never lie." All numerical relations are absolute. Whatever is scientific is *just* right—simple, yet perfect. Yet whatever is not scientific is faulty. We have shown that spelling is an exact science, consisting in having a letter for each of the forty-two vocal sounds, which are all man can make; but that using the same letter to signify different sounds and representing different sounds by the same letter, confuses, and now consumes as many years in learning to read and spell poorly as weeks would then be necessary to spell perfectly. This identical principle and drawback apply to the present decimal system of conducting all numerical computations. Though it is far better than those systems it supersedes, yet it is extremely cumbersome and intricate, when it might be simple and easy. Though reckoning dollars by dimes is far better than by the old one of halves, quarters, shillings, and sixpences, yet its divisions are faulty, and fractions most intricate. The dollar divided gives 50 cents, this 25, an odd number, which prevents the pairing of one; and this divided gives $12\frac{1}{2}$, $6\frac{1}{4}$, $18\frac{3}{4}$, &c., supplanting which is a great advance, as those who remember the evils of the old system must attest. Yet it obviated only about half of them. To give 50 cents you must have an odd dime, and 25 cents a half dime, and an eighth of a dollar, a dime and a quarter. Doubling on 10 is far better than on the Yankee shilling of $16\frac{3}{4}$ cents, or York of $12\frac{1}{2}$, or

English of 23; but how very much simpler and better still to double on 8 instead of 10! Our decimal system of multiplying on 10 doubtless originated in the primitive method of counting with fingers and thumb. Some Negro tribes count only five; after that they compound their numbers, thus: 1, 2, 3, 4, 5, 5-1 (6), 5-2 (7), &c., and this was undoubtedly the primitive method of counting, and derived from numerating with the fingers and thumb. Now, suppose they had omitted the thumb, and turned on 4 and 8; or suppose we should adopt the octal system of turning on 8 in place of 10; please mark how that little change would simplify all numerical computations!

THE DOUBLING AND HALVING principles are the natural ones, and alone strictly scientific: 1, 2, 4, 8, 16, 32, 64, 4096, &c., is the natural order of reckoning, and of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{16}$, &c., of fractions. Note how perfectly simple this would render all fractions, and all divisions of sums. A dollar should be 64 cents, its half 32, quarter 16 cents, and octoon 8 cents, &c., till you come down to 1 cent, $\frac{1}{2}$ a cent, &c.; whereas now dividing 50 cents into dimes leaves an odd dime, and dividing this, an odd half dime, and this, an odd half cent, and this, $1\frac{1}{4}$ cents; whereas my system would make the dime 8 cents, its half 4 cents, its half 2 cents, and its half 1 cent. Many things go in pairs, a fact counting should recognize; but how can you pair 25, $12\frac{1}{2}$, $6\frac{1}{4}$, $3\frac{1}{8}$, &c.?

THIS OCTAL SYSTEM has already forced itself upon mankind in many computations. Thus we reckon liquids by making 2 pints compose a quart, 4 quarts a gallon, 32 gallons a barrel, 4 barrels a tierce, &c. Liquids are easily divided on this halving and doubling principle, but how could they be on the decimal? Wood is measured octally, not decimally, by making 128 square feet a cord, 64 a half cord, &c., and land by making 160 rods compose an acre (it should be 128), which can be halved down to 10, but leaves an odd rod and fractions below. The Chinese make two squares of their straw carpet take the place of our rod, of course two of them making a square. A mile ought to be 256 rods, and a rod 16 feet, not $16\frac{1}{2}$, as now. But the far greater convenience of our proposed octal system is apparent. Its superiority will yet compel men to adopt it gradually, if not suddenly, and really, if not nominally. It is the true cube principle, and will commend itself in proportion as it is scanned. Note how it would simplify logarithms, the integral calculus, &c., &c.

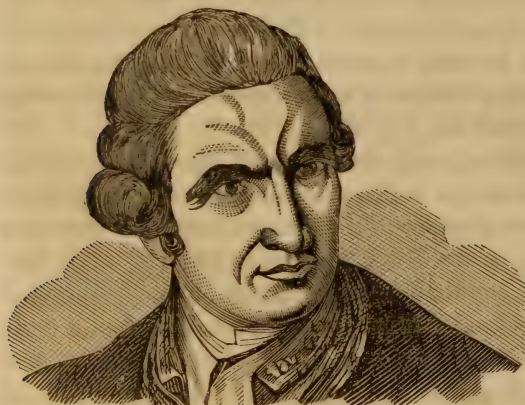
BRICK by being $2 \times 4 \times 8$ illustrates the convenience of the octal system in practice. England is about adopting our decimal system. She had far better adopt this octal. It is in complete accord with the cube and square root, and would render logarithms and the integral calculus easily and fully understood by school-boys, whereas now few men can comprehend them.

XXXV. LOCALITY.

255. — ITS LOCATION, ANALYSIS, DISCOVERY, ADAPTATION, &C.

THE TRAVELLER — Local memory; cognizance and recollection of places, roads, scenery, position, the whereabouts of things, &c.; desire to see places, and ability to find them, and keep the points of compass in the head; the geographical and cosmopolitan Faculty.

LOCALITY VERY LARGE. ORDER, CALCULATION, AND SIZE LARGE.



NO. 183. — CAPTAIN COOK, THE FIRST TO SAIL AROUND THE WORLD.

ITS LOCATION is over Size and Weight, or about three fourths of an inch above the inner half of the eyebrows, and runs upwards and outwards. It is immense in Captain Cook, the first to circumnavigate our globe, and his history attests its extraordinary activity and power. This likeness was taken before Phrenology was

known, yet mark how perfectly his character and organs accord with this science. In him Observation, Form, Size, Order, Computation, and some others, are also large, as were likewise their mental characteristics. It is also large in Columbus, Galileo, Newton, Pascal, Laplace, and others innumerable.

“My taste for natural history often led me into the woods to ensnare birds, and find their nests, in which I was fortunate from having noticed

on which side of trees, northern, southern, &c., each kind built; but when I visited my snares I could not find them, though I approached them from different ways, marked trees, stuck down branches, &c. This obliged me to take with me a schoolmate, who always found every one without effort, though his other talents were moderate. When I asked him how he always went so accurately to them, he asked me how I always lost myself. I took a cast of his head; and another of the celebrated landscape painter, Schœnberger, who, after making a general sketch of any landscape, could afterwards remember and insert correctly every tree, group of bushes, and stone, from spontaneous recollection. M. Meyer found his chief pleasure in travelling, and retained an astonishing recollection of the different places seen. I moulded his head, and placed it with the others; carefully compared them, and found in them all, in the region directly over the eyes, near Educability, two large prominences, which began just inside of the root of the nose, and ascended obliquely upwards and outwards as far as the middle of the forehead, and began to think there might be a fundamental Faculty for recollecting places.

"My opponents object, that the frontal sinuses prevent its inspection. I anticipated and answered this objection long before they made it, thus: 1. They are rarely found in women, and usually appear late in life in men. 2. They run almost horizontally, are oftenest directly between the eyebrows, and extend half their length; while those produced by this organ swell out more uniformly, present no inequalities, and extend obliquely upwards and outwards.

"A dog was carried in a coach from Vienna to St. Petersburg, and in six months returned. Another, transported from Vienna to London, attached himself to a traveller, embarked with him, but escaped as soon as he landed, and returned to Vienna. Another, sent from Lyons to Versailles, and thence to Naples, whence he returned by land to Lyons. A hound, sold by one gamekeeper in my country to another, was taken three hundred leagues, into Hungary, escaped, and arrived months afterwards at his old master's, greatly wasted. Two pigeons, taken by ship from Holland to Iceland, escaped just before landing, rose high in the air, flew around a short time, and struck a bee line home, as straight, the captain said, as he could, and the third day after appeared at their old house so exhausted that they fell from the roof into the yard, and did not go out for a week. Similar facts gave rise to carrier pigeons. Joseph II. had an Iceland falcon, who, when unhooded for the chase, would rise high, sail around, and start direct towards Iceland, when I saw the Emperor let off two lannerets, which headed him off, and brought him back."—*Gall*.

"DANIEL BOONE was perpetually going from one place to another, was the most celebrated hunter and woodsman of his age, and possessed this organ in a degree of development so bold and prominent that it deformed his face."—*Dr. Caldwell*.

"Some persons have a natural tact in discriminating the phrenological organs, whilst others experience the greatest difficulty in doing so. The former have Locality, Size, and Form large, the latter small."—*Combe*.

"There is a link between animals and the Deity. Man is merely the most perfect animal, and reasons best. How do we know they have no language? A horse has memory, reason, and love. I had a horse which knew me from all others; capered, and marched proudly, while I was on him; showed he knew he bore a superior person; would allow no other but the groom to mount him, and then showed he bore an inferior; always found the way when I had lost it and threw the reins on his neck. Who can deny the sagacity of dogs? Plants are eating and drinking animals. There are gradations up to man. The same spirit animates all." — *Napoleon*.

"This sense is indispensable to brutes, in order to find their dens, homes, nests, kennels, and young. How could they do without it, or how migrate, yet return to their former places, and even bushes? Memory Thompson, a London physician, at two sittings, without plan, compass, book, or anything but memory, drew a correct plan of the entire parish of St. James, with many parts of Mary le Bonne, St. Anne, and St. Martin, containing all the places, streets, courts, passages, markets, churches, chapels, public edifices, stables, corners of houses, and even pumps, trees, railings, sheds, an exact plan of the Carlton House, and Palace of St. James, and a like plan of St. Andrew's, and declared he could make as good a one of St. Giles, St. Paul, Covent Garden, St. Clement, and New Church. Name any building whatever in some large street, and he will tell instantly what business is carried on in it, and everything about it." — *Gall*.

ITS ADAPTATION is to the natural element or fact of *position*. Every material thing must be in some *place*. Nothing can be without being *somewhere*. Only one thing can occupy the same place at the same time. But for this elementary principle of matter, no houses, no anything, not even our own selves, could have had any location, could have been anywhere, that is, could not have been at all; whereas space both exists, and forms a *necessary* constituent of matter; besides being seemingly infinite. Though human vision, aided by the telescope, has surveyed it beyond our utmost stretch of realization, yet it has probably seen but the merest moiety of its boundless extent above, below, and on all sides, stretched out by its infinite Creator. Yet with this element in Nature, but without this Faculty in man to place him in relation with it, it must have remained forever a sealed book to him, and as if it were not; so that he would lose and be unable to find everything out of sight, lose himself every time he changed places, and not have existed.

GETTING TURNED, as to the points of the compass, as when stage, steamboat, car, &c., turn without our notice, furnishes still further proof of that fundamental phrenological truth already

demonstrated, that the mind is composed of separate Faculties, instead of being a unit, thus : how could any one entity *know* by sun, stars, &c., that it was going east, while it *seemed* to be going west? How could the same single power thus contradict itself? Yet on our theory of separate Faculties, Locality, having failed to note the turning, insists that east is one way, while the other Faculties declare it is the other, and try their best to correct Locality, which still persists that north is south. This common *fact* is proof *absolute* of the existence of separate mental powers.

MY COLORED HENRY, in getting thus turned, insisted that he had got "*over the edge* of the world, on to its other side," which caused the sun to rise in the west, and turned everything round, and could not be convinced to the contrary.

256. — DESCRIPTION AND CULTIVATION OF LOCALITY.

LARGE — Always keep a correct idea of positions, relative and absolute, in deep forests and winding streets; cannot be lost; are perfectly enamoured of travelling; have a passion for it; remember the whereabouts of whatever is seen; can carry points of the compass easily in the head, and are lost with difficulty, either in the city, woods, or country; desire to see places, and never forget them; study geography and astronomy with ease; rarely forget where things are seen: with Construction, remember the arrangement of the various parts of a machine; with Observation, Eventuality, and Intuition, love to see men and things, as well as places, and hence have a passion for travelling, &c. It is indispensable in the prosecution of most kinds of business, and science.

FULL — Remember places well, yet not extraordinarily; can generally find the way, yet may sometimes be lost or confused; with large Eventuality, remember facts better than places, &c.

AVERAGE — Recollect places and positions seen several times, yet in city and roads are occasionally lost; have no great geographical talent, yet by study and practice can do tolerably well.

MODERATE — Recollect places rather poorly; dare not trust to local memory in strange places or large cities; are not naturally good in geography, and to excel in it must study hard; should energetically cultivate this Faculty by localizing everything, and remembering just how things are placed, &c.

SMALL — Are decidedly deficient in finding places, and recollect them with difficulty, even when perfectly familiar with them; and must stay at home unless accompanied by others, because unable to find the way back.

ITS CULTIVATION subserves many most important life ends, and can be effected thus: Notice, as you go, turns in the road, landmarks, and objects by the way, geography and the points of compass, when you see things; charge your memory where on a page certain ideas or accounts stand recorded, and position in general, and study geography by maps and travelling, the location of anatomical and phrenological organs, and position or place in general; and so mark all the places seen in your mind, that you will know them when you see them again. If in the city, note streets and important houses, and when you visit one not seen before, look around at the neighboring ones, and if you can fix upon any distinguishing peculiarity, write it on the tablet of this Faculty so that you will know both it and the house in question, when you see them again. If in the country, observe every tree, and all the cross-roads; in short, *mark your track* wherever you go, as Indians always do, so that you can always retrace your steps. Travel if able; and mount stage-coach or promenade the steamboat deck as they traverse hill and dale, in order to observe the ever-varying scenery thus presented to the eye. For this, railroads furnish fewer facilities than slower conveyances. If you can snatch a leisure hour in visiting strange places, mount some eminence commanding a prospect of the surrounding country, or follow a river or shore miles for a similar purpose. Contemplating scenery, besides feasting Locality, also exerts a highly purifying, elevating, and even religious influence over the mind, and weans from vice to virtue. It is therefore desirable to diminish the expenses and dangers incident to travelling, so that all may enjoy its advantages, as well as pleasures. Our nation, as a whole, out-travels all the world besides; and the more, the better; for few things equally instruct or benefit, or equally stimulate that observation already shown to lie at the basis of all education,²⁴² or promote general mental action, and therefore discipline. Still, a dunce may travel a lifetime, yet learn less from it than an active, penetrating mind will gather in visiting some contiguous city. Few things require more

mind than travelling, when all the good it can confer is to be obtained.

STUDYING GEOGRAPHY by maps and books is travelling by proxy. Though the present method of teaching this science is less defective than that of teaching most other sciences, yet it might be essentially improved. Its modern method of employing maps vastly facilitates its acquisition and retention, yet should be carried much farther. Every important city, river, island, and landscape on earth ought to be accurately engraved, so that looking through a magnifying lens at them would represent them the size and appearance of life. Impressions of them thus obtained would never be forgotten.²⁴² This is doubly important in teaching geography to children. Globes are still more serviceable, and should be constructed large enough to allow cities, rivers, mountains, &c., to be accurately represented by elevations and depressions. Geographical gardens should also be constructed on the same plan; but of these matters hereafter. We wish now to urge strongly the study of natural geography. The study of the artificial boundaries of countries and states is less important than of natural boundaries and landmarks. Take or teach first the grand divisions of the earth into land and water, or the formation of oceans and continents; next its framework, thus: Beginning with Cape Horn, follow the Andes, that chain of mountains whose extension into the sea forms Cape Horn, on up along the western coast of South America to the Isthmus of Darien, which it forms; then north-west along the Rocky Mountains to Behring's Straits, which it also forms; then down Kam-schatka, which it also originates, through Eastern Asia to the Himmaleh Mountains, that head of the mountainous formation of our globe; and then south-east into its formation of the Polynesian Islands; and west through Mount Ararat, the Pyrenees, and rock-bound Gibraltar, to the Mountains of the Moon in Northern Africa, and you have the mountainous or bony structure of our globe; especially if you follow the Blue Ridge from its rise in Alabama, along the eastern borders of our continent, through the Catskill, Green, and White Mountains, to its northern termination at Hudson's Bay.

RIVER BASINS, each and all, have their peculiarities. The Mississippi valley is wide, level, beautiful, throughout all its course

and branches. The St. Lawrence is full of lakes or marshes, both of which result from the same topographical peculiarity of formation. Accordingly, besides containing the largest bodies of fresh water in the world, it is full all through Wisconsin, Canada, Michigan, and Northern New York, of lakes, of which the great lakes, Lake of the Woods, Seneca, Cayuga, Skaneateles, Crooked, Canandaigua, and others, are samples. Nor can we go many miles in any direction throughout this vast valley, without intersecting these lakes or marshes.

ANOTHER St. Lawrence peculiarity forms Niagara Falls. Some great internal commotion of the earth has, as it were, broken its crust in two, and raised up one side of the breach several hundred feet. This, the only one-sided hill known, commences in Canada West; extends along the northern shore of Lake Ontario; forms Niagara Falls; continues on to Lockport, where the Erie Canal, in rising it, makes some nine or ten successive locks; extends on east to Rochester, where it forms Genesee Falls; and continues on to Watertown, which it built up by creating the fall of the Black River at that place. The Oswego River, and each of the other rivers which rise in Central New York and flow north into Lake Ontario, pitch over this same ledge, which creates one or more falls in each of several hundred feet. These are by no means all the topographical peculiarities of this great northern drain of our continent, yet serve our present illustrative purpose.

THE SUSQUEHANNA has a topographical aspect entirely different. Its bed, from the head-waters of all its branches throughout its entire course, is broad and shallow, as is Chesapeake Bay; and on each side of almost any part of it and its branches will be found terraces, or rapid ascents from its bed, several feet high; then a level, and then other rises and levels, corresponding with each other, on both sides. Its waters also run close under the base of its mountains, which often rise abruptly to great heights, and are usually regular. Any one at all acquainted with these topographical aspects of either of these rivers, or of any of their branches, can tell what basin he is in, just by these general resemblances, though he is without any other means of knowing.

TO CULTIVATE IT IN CHILDREN, begin before they are three years old. Direct their attention to different rooms, and their relative locations. Teach them east, west, north, south, right,

left, above, below, &c., and often ask them in which rooms and parts of rooms the bureau, clock, sofa, and other things are located. If you live in the country, teach, and often ask them the direction of given fields, as the wheat-field, corn-field, meadow, pasture, woods, &c., and where certain people live, &c.; if in the city, pursue a similar course by calling special attention to public and singular buildings; to streets, lanes, and everything calculated to incite this Faculty, as well by teaching and encouraging them to find their way early, taking them out to ride, asking, "Which way is mother?" then, turning a street, "Which way is she now?" A three-year-old girl was requested to look around sharply at the houses, in order to remember them next time, and soon a parrot immensely delighted her. Next time, on coming to this place, she recollected it, and was overjoyed with the idea of finding the parrot, which she remembered was near. This time she was told which way to go to find the parrot, and the next time she remembered that also. By pursuing a similar course, this Faculty can be easily roused to vigorous action, so as through life to note and be able to find the way.

STUDYING GEOLOGY furnishes a powerful stimulant, and therefore discipline of this Faculty, and of many other intellectual and moral powers. The earth has written her own history upon her surface and her depths, besides teaching some of the grandest lessons we can learn. Every mountain, valley, mine, river, embankment, rock, stone, and even mineral and pebble, force upon us the conviction that many and great changes have transpired on the earth since its creation, and plainly record the character of those changes. The various layers of earth seen on digging into an embankment; the different strata of rocks, and of substances in the same rock; veins in rocks, and shells often found imbedded in them; huge stones lying far above high-water mark, yet having been worn smooth; petrifications, and tracks of animals imbedded in masses of rocks, and even on the tops of mountains; the skeletons of extinct races of animals, often of astonishing dimensions, found imbedded deep in the earth, and sometimes in solid rock,* and innumerable kindred phenomena, teach lessons

* PRESIDENT HITCHCOCK, of Amherst College, discovered tracks of birds larger than the ostrich in the paving-stones of New Haven. Posterity will confer immortal honor on this distinguished devotee of science, and gifted expounder of

concerning the earth's past history and future destiny, which man can read, and should know, and which will yet develop discoveries of incalculable utility and magnitude, which children and youth should be taught. As you walk or ride past rocks composed of different materials, or an embankment having different strata of pebbles, or clays, or earths, one above another, point them out, and explain what is known or supposed of their cause, and thus of other geological phenomena. Whenever practicable, take them into coal and other mines, and into wells before stoned, and show them salt, sulphur, the Saratoga, and other mineral springs, by way both of practical instruction, but especially of putting them on the track of personal observation and reflection. You will thus "sow good seed on good ground," which will take deep "root, and bring forth a hundred fold" of immediate pleasure, as well as of intellectual advancement through life. Get them hammers, and take them with you to quarries, and upon mountains, in search of minerals, at the same time directing their attention to whatever of interest in the world of trees, vegetables, and flowers you may find. And think you one such scientific ramble will not excite, and thereby develop, their minds more than months of monotonous reading and spelling? And adults will find geology full of the most thrilling facts and laws.

STUDYING PHRENOLOGY also disciplines Locality, because all the organs require to be located correctly. On retiring from the arduous professional engagements of the day, the Author often experiences a prickling sensation in this organ, as if it had been overdone. The study of anatomy also disciplines and strengthens it, as does, indeed, that of most of the sciences. So do voyages and travels, which should be generally perused; yet, to combine complete excellence, they require to be written *phrenologically*.

TO RESTRAIN — Settle down, and give up roving and travelling.

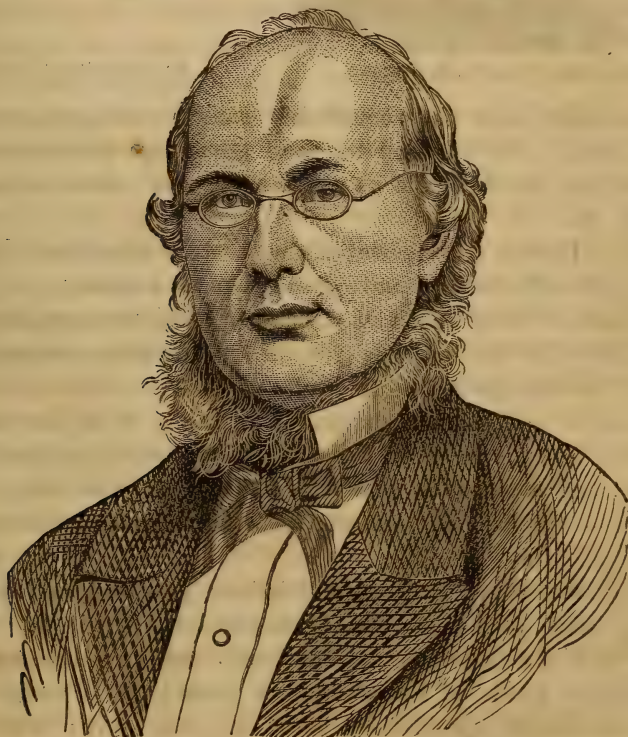
geology and Nature, for his eminently successful labors in the cause of universal knowledge. He was a firm, full believer in Phrenology.

CHAPTER II.

257.—THE LITERARY OR KNOWING FACULTIES.

THESE ORGANS occupy the central portion of the forehead, and render their possessors smart, off-hand, brilliant, scholarly, bright, apt, quick to learn, perceive, and do, well informed for their advantages, and both fond of knowledge and gifted in its acquisition. They are largely developed in Burritt, Henry, Greeley, and Seward.

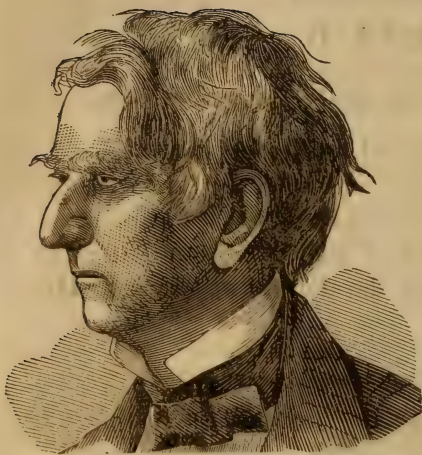
LITERARY AND REFLECTIVE ORGANS LARGE.



NO. 184. — HON. HORACE GREELEY.

LARGE — Have a most remarkable memory ; are extraordinarily well informed, if not learned and brilliant ; according to advantages are first rate in scholarship ; have a literal passion for lit-

KNOWING GROUP LARGE.



No. 185. — HON. W. H. SEWARD.



No. 186. — ELIHU BURRITT.

erary pursuits, and are remarkably smart, intelligent, knowing, and off-hand; can show off to good advantage in society: with large Beauty, are brilliant as well as talented; have an excellent memory, &c.

FULL — Have a fair, matter-of-fact cast of mind and knowing powers, fair scholarship, and a good general memory.

AVERAGE — With cultivation, have a good memory, and store up considerable knowledge; yet without it, only a commonplace memory, and no great knowledge.

MODERATE — Know more than can think of at the time, or tell; with large reflective Faculties, have more judgment than memory, and strength of mind than ability to show off.

SMALL — Have a poor memory of most things, and inferior literary capabilities.

To CULTIVATE — Read, study, inform yourself, and read the papers; keep pace with the improvements of the day; study history and the experimental sciences; and pick up and store up whatever kinds of knowledge, in your line of business, and of matter-of-fact knowledge, come in your way; write your thoughts in a daily journal, or for the press; join a lyceum or debating society, and read history and science with a view to remember all you read and know, for the purpose of using it in argument; remember the news, and tell it to friends; in short, read, write, and talk.

GREELEY, SEWARD, AND BURRITT each constitute excellent practical samples of these organs large and Faculties powerful. Greeley commanded a more accurate and varied range of knowledge than almost any other man. His memory of election returns, and statistics generally, was most astonishing, and rarely, if ever, equalled. He literally knew almost everything, and hence made his Tribune the first and best literary newspaper of the world. His percepts are only fair; but behold in that great, high, bold forehead really immense literary and reflective organs, and then behold in all his productions, unequalled powers of memory and reason, his Phrenology and character coinciding perfectly. How great a public loss was his unnecessary death! A little timely care would have enabled his "bushel of brains" to have worked on a decade or more hereafter as powerfully as heretofore, contributing greatly to the pleasure and profit of mankind, and the great current of human ideas. That extraordinary cerebral vigor which made so lately such unrivalled speeches as he made "down east," and "out west," could and should have done yeoman's battle many years longer in the cause of progress. But his being virtually "ruled out" of the Tribune probably gave that final excitement to it, already on the breaking point, which, by inducing sleeplessness, compelled its dissolution. Being ignored by his own pet mental child was hard, as some others can attest "by experience." America could have spared any one of all her sons better.

SEWARD had this knowing group very large, but with nothing like Greeley's great brain or reflectives, and hence was smart, appropriate, extra in facts, clear-headed, eminently practical, and always pertinent, but neither profound nor philosophical. A forehead thus retiring never can be. His talents corresponded perfectly with his Phrenology, as seen by his bust, cast from life by the Author. His Temperament is that long, sharp, and prominent, already pronounced the most efficient.⁵⁷

BURRITT has a like organism and Phrenology, as seen in his bust, also taken by the Author,* in which this knowing group, together with Form, Size, and Observation, are larger than in

* THE AUTHOR SPENT many thousands of dollars in taking casts from the heads of distinguished men, but the public has not seemed to recognize their surpassing value.

probably any other head extant; and his matter-of-fact memory has no superior. He knows over fifty languages, and can tell just how much each government expended in each year for this purpose and that; besides knowing all about ancient and modern history and statistics. And I have traced both this gift and this phrenological conformation in many of his maternal relatives.

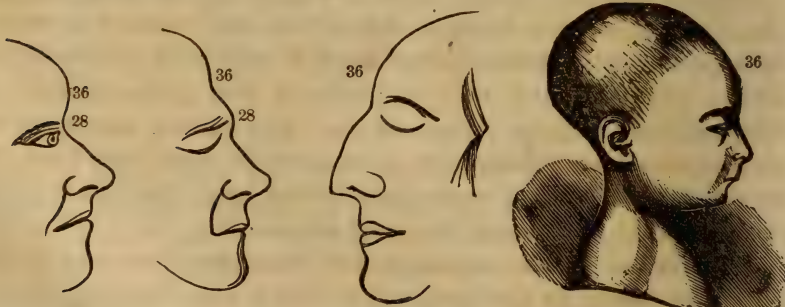
XXXVI. EVENTUALITY.

258. — ITS LOCATION, ANALYSIS, AND ADAPTATION.

THE HISTORIAN. — Memory of facts and circumstances; educability; perfectibility; recollection of news, occurrences, historical, scientific, and other events, and what has been seen, said, done, heard, and known; love of history, knowledge, and matters of fact; cognizance and memory of action; love and remembrance of experiments, anecdotes, and past and passing items of information; desire to ascertain what is, and know what has been and will be.

ITS LOCATION is in the centre of the forehead, directly above Observation, and between the two lobes of Locality, yet it extends a little higher up. Its full development fills out the middle of the forehead, as in Sheridan, Pitt, Michael Angelo, the child, and lad, but is small in Terry, No. 193, and old Franklin, and

INDIVIDUALITY AND EVENTUALITY LARGE AND SMALL.



No. 187. — PITT. No. 188. — MOORE. No. 189. — SHERIDAN.

No. 190. — CHILD.

Moore. It sometimes seems deficient, because the surrounding organs are large, whereas close inspection shows it to be large. Steady the head with the left hand, and place the second finger

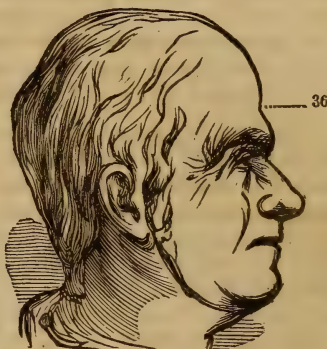
of the right in the very centre of the forehead firmly on the head, and then work the skin horizontally, and if your finger crosses an up-and-down ridge about the size of a pipe-stem, this Faculty is vigorous, and has been much used and strengthened by culture of late years. Where it is not noticeably full, but has been taxed by business or literary pursuits, or had a great many little things to do for years, it appears deficient to the eye, but the rule just given for this pipe-stem perpendicular ridge signifies great activity and vigor in it.

EVENTUALITY.



No. 191.—LARGE.

EVENTUALITY.



No. 192.—SMALL.

"THE HUMAN FOREHEAD not only rises above the orbits, but often projects beyond the level of the eyes. A physician, the inferior anterior middle part of whose forehead was large, but upper frontal retreating, was always brilliant in company; knew something about all subjects, adopted all new theories, Stahl's, Peter Frank's, and the murderous doctrines of Brown, prescribing nothing but opium, &c.; made a panacea of every new medicament; and accepted all new views without testing them by experiment. I have always observed that those similarly organized are like bees, gleaning from the productions of others. I predicated that one of the founders of a new sect at Berne would teach, and he had charge of the dissemination of this new doctrine. In Gaultier, the author of many elementary works on education, the whole forehead, but particularly its lower middle part, is very prominent."

"After discovering verbal memory, I was not long in perceiving that there were also other kinds, sometimes strong in some and weak in others. Ever since before 1800, I taught both this doctrine, and that memory is not a primary Faculty, but a general attribute of every fundamental power; that there are as many different kinds of memory as there are different Faculties; that Music recalls tunes, Calculation numbers, Locality places, &c. Those with Educability large learn with extreme facility; have a general love of knowledge, and aptness for learning; and readily adopt new doctrines, manners, and customs. Young animals and

children learn easier than adults. Frequently, when three months old, infantile foreheads advance in the middle far before the rest, forming an elongated prominence extending from the root of the nose to the middle of the forehead. It is the great development of the inferior anterior middle convolutions which gives to children their extraordinary educability and rapidity of appropriating a prodigious amount of impressions from the external world. My numberless observations leave not the slightest doubt that Educability is a fundamental Faculty, whose organ is in the inferior anterior middle of the forehead." — *Gall*.

"This Faculty recognizes the activity of every other, and in turn acts upon all; desires to *experience*, and would taste, smell, see, hear, and touch; loves general instruction and the practical pursuit of knowledge; is often styled *good sense*; is essential to editors, secretaries, historians, and teachers; contributes essentially to consciousness; and perceives the impressions made by the external senses, which it changes into notions, conceptions, and ideas, and gives attention. Its sphere is great, and expressed by verbs." — *Spurzheim*.

"In Mrs. T., Eventuality and Time are unusually developed, occupying nearly half the intellectual region, and giving her forehead quite an arched or semicircular appearance, and she is a complete walking almanac, an animated calendar of births, deaths, historical occurrences, and events generally, and has been from childhood a never-failing family book of reference. Eventuality prompts to investigation by experiment." — *Combe*.

ITS ADAPTATION is to what *transpires*. Nature is one vast theatre of action and change. Her operations are almost infinite in number and variety. Continually are her rivers running; tides ebbing and flowing; seasons going and returning; vegetation sprouting, maturing, or decaying; and all her works, animate and inanimate, passing through innumerable rounds of changes. Man, too, is in perpetual transition. Instead of being doomed to monotony, his heart is ever beating, lungs heaving, and whole body acting or resting, receiving new particles and rejecting old, and growing or decaying from before birth till after death. His mind is perpetually experiencing incidents innumerable, and ever-varying. Countless historical events have been continually transpiring from the first dawn of human existence until now, widening and varying in the person of every successive individual of our race, and necessitated to increase forever! To have been placed in a *one-condition* state, unchanged by a single occurrence, would have precluded all enjoyment and suffering, because the very experiencing of them is an event. Even the natural sciences themselves are only methodized occurrences, being made up of

the operations and doings of Nature. An unchanging state of things could not be any state at all. Action, motion, change, transition, occurrence, &c., are rendered necessary by the very constitution of things. Yet unless man were endowed with this or a kindred Faculty to enable him to experience and remember these changes, Nature would have been a sealed book to him; all memory of the past, and of even his own past existence, obliterated; experience, his main guide and teacher, unknown; and all enjoyment and suffering impossible. To this element of action in Nature, Eventuality is adapted, and adapts man by enabling him to take cognizance of and remember this action. Without this mental Faculty we could recollect nothing past, and hence should lose knowledge as fast as we gained it, and thus be unable to advance a single step, either in the acquisition of that experimental knowledge so indispensable in all we say and do, or in that inductive reasoning which constitutes our main guide to correct conclusions. The very constitution of the human mind requires Observation to see, and Eventuality to remember, before reason can draw any conclusive inference. Reason without them is an eye in total darkness. Inferences not founded on facts and drawn from a summary of them are only surmises, and worse than valueless, because they mislead.

ITS CENTRAL POSITION in the middle of the forehead, and surrounded by and touching most of the other intellectual organs, signifies that all are designed to act with it and it with all; that all are ordained to pour *into* its fund all their respective results and operations, and all draw out of this reservoir whatever treasures they may wish to employ. No mental Faculty, not even reason, is any more important or useful; for with it deficient, even reason degenerates into mere abstract theorizing, which is useless, while its action *with* reason gives that inductive philosophizing which discloses all truth.

259. — ITS DESCRIPTION, ILLIMITABILITY, AND CULTIVATION.

LARGE — Are smart, bright, and knowing in the extreme; possess a wonderfully retentive memory of everything like facts and incidents: with large Expression and Imitation, tell stories admirably, and excel in fiction, &c.; have a craving thirst for knowledge, and literally devour books and newspapers; never forget anything once seen or known; have a clear and retentive memory

of historical facts, general knowledge, what has been seen, heard, read, done, &c., even in detail; considering advantages, are well informed and knowing; desire to witness and institute experiments; find out what is and has been, and learn anecdotes, particulars, and items of information, and readily recall to mind what has once entered it; have a good general matter-of-fact memory, and pick up facts readily; with Computation and Acquisition large, remember business matters, bargains, &c.; with large social feelings, recall friends to mind, and what they have said and done; and with large Locality, associate facts with the place where they transpired, are particularly fond of reading, lectures, general news, &c., and can become a good scholar.

FULL — Have a good general memory of matters and things, yet it is considerably affected by cultivation; have a good memory if it is habitually exercised, but if not, only an indifferent one; with large Locality, recollect facts by associating them with places, or where on a page they are narrated; with large reflectives, remember thoughts better than facts, and facts by associating them with their principles, &c.

AVERAGE — Remember leading events and interesting particulars, yet are rather deficient in memory of items and details, except when it is well cultivated.

MODERATE — Are rather forgetful, especially of details; and with moderate Observation and Expression, tell a story very poorly; should cultivate memory by its exercise; omit to say and do many things designed and wanted; forget much once known; remember events indistinctly; cannot readily recall even what is known; and retain only a general idea of the past and of former acquisitions, instead of that **DETAILED** and **SPECIFIC** recollection given by large Eventuality, &c.

SMALL — Have a treacherous and confused memory of circumstances; often forget what is wanted, intended to be said, done, &c.; have a poor command of knowledge; are unable to swear positively to details; forget almost everything; and should strenuously exercise this memory.

ITS CULTIVATION thus becomes the second step in mental improvement, that of Observation being the first.²⁴² By what means, then, can it be effected? By promoting its action. Keep it employed in remembering; because the more you try to remember facts, the more easily will you be able to recall them. The more

you charge this Faculty, the more tenaciously will it retain its trusts. The idea that taxing memory confuses and weakens it, is erroneous. The very reverse is true,⁶⁴ except when body and brain are already exhausted.²³⁹ Ask post-office and other clerks, as well as business men generally, whether impressing on their minds facts, transactions, changes ordered, names, faces, amounts, and business matters generally, does not greatly strengthen, instead of weaken, their remembering capability?

ITS POWER IS ILLIMITABLE. I have experienced and witnessed innumerable facts tending to establish this conclusion. On requesting the South Boston omnibus drivers to do errands in Boston, I observed that they took no memoranda, yet committed no errors, though they often do a score of errands at a trip. The second time I went to the Boston post-office, the delivering clerk, without looking over the letters or papers, said there was none for me. ¹I requested him to look, which he did, — meanwhile remarking that it was useless, — but found none; and scores of times, the moment he saw me, responded that there was something or nothing for me, without my being able to detect a single mistake. To be able thus to remember whether or not there was something for any of those thousands of citizens and strangers continually applying, requires an extraordinarily retentive memory; and yet every reader might have attained, probably can yet acquire, one quite as efficient. Mr. Worthen, baker, Manchester, N. H., serves three hundred customers, about two thirds of whom take more or less every morning; but he sets down nothing till he returns home, after having visited say half of them; yet he forgets not a loaf. A man in Halifax, N. S., can tell at once the name and age of every inhabitant in town, young and old. After delivering a lecture, at Clinton Hall, on the improvement of the memory, one of the audience stated that an acquaintance of his, a cattle drover of New York, who could neither read nor write, after having sold out large droves to different butchers, kept their number, price, and everything in his mind, and could go round months afterwards, even after having bought up and sold out several other droves, and SETTLE FROM MEMORY, without ever having been known to forget anything. Those who think this too marvellous for belief, will find it abundantly confirmed by converging and collateral evidence throughout this work. The Gaboon merchants accomplish by memory what is still more ex-

traordinary.²⁵³ The fact is remarkable in itself, and furnishes a practical proof of the correctness of this doctrine of improving memory illimitably by its exercise, that all those who can neither read nor write have astonishing memories—several hundred per cent. better than others.⁶⁴ Of this fact any reader can easily find illustrative examples. The reason is, that such, unable to record their business transactions, are compelled to *remember* them, and thus strengthen this Faculty. Indubitable and universal facts compel the belief that the human mind is constituted and capacitated, provided the body were kept in the right state,²³⁰ and this Faculty disciplined in the best manner, to recall EVERY EVENT OF LIFE. Nature has created memory FACT-TIGHT, so that it need allow literally nothing to escape, but could recall every item committed to its charge. Behold how astonishingly retentive the memories of children, even though their bodies are yet weak, and their brain necessarily very immature! What, then, might not the memories of adults become if duly disciplined? As much more minute and tenacious as their cerebral energy is capable of becoming more powerful as they grow older.²¹⁶ Progression, not decline, is Nature's ordinance—especially mental progression. I am warranted and compelled by an array of converging facts, of which those in this work are samples merely, to regard the constitutional capabilities of memory as literally illimitable; for, if even all “*these things can be done in the green tree, what cannot be done in the dry*”? If by mere accident it is capable of performing all which these facts attest, how incalculably more retentive could it be rendered by applying mental SCIENCE, that is, Phrenology, aided by Physiology, to its improvement! In another life we shall remember even all the slightest circumstances of this;²¹⁶ nor need we wait till then for this power. Our Creator has done all that even a GOD COULD do to render human memory PERFECT. It is perfect by nature, and to become so in fact requires only that very *exercise* which both our own happiness and all we say and do require and almost compel. Reader, within your own reach hangs this most exalted blessing, requiring only effort to pluck it. But modern education and general mental idleness, instead of improving memory, actually weaken it; first by impairing the energy of both body and brain, by confinement and bad air, and then by giving it so little food as to enfeeble it by sheer starvation. We give it so little to do that it neglects this little, in accordance with

the law of things, that "from him that hath not shall be taken away even that he hath."

MCGUIGON'S EXPERIENCE both details the specific method of cultivating several kinds of memory, and serves as samples for the rest. In 1838, at a public examination of his Phrenology, I described his Eventuality as developed to an extraordinary degree, along with many of his other intellectual organs, inferring that he must therefore be remarkably learned, despite his plain apparel; and he proved to be, in point of fact, by far the most learned man in Pennsylvania, and to have the very best general memory. He told this story of his method of strengthening it:—

"AT TWENTY-FIVE I had the very worst memory imaginable of everything. If I went to town for half a dozen articles, I was sure to forget half I went after, and if I read anything could not tell afterwards what I had read, till, becoming thoroughly provoked with myself, I just determined that I *would* remember things, anyhow, and began by reading and re-reading the first page of Xenophon's Life of Cyrus, till I could repeat it by heart, when I pursued a like course with the second, and then subsequent pages, beginning at each step with the first page, and reviewing the whole. Pursuing this course for a while enabled me, by one close, attentive perusal, to glean and remember everything previously read. Yet at every step forward I *reviewed* and *recharged* my mind with the whole. And when I could do this well with one book, I pursued a like course with two books alternately.

"NAMES, however, I found it difficult to remember, till, whenever I came across a new name, I looked sharply at it till I had so impressed it upon my sight that I could remember it ever afterwards. I then pronounced this name over and over again till I had made my ear also familiar with it, and after that never forgot it. I then associated his biography and doings with his name, so that seeing or hearing it recalled all I had ever known concerning it.

"DATES I found extremely difficult of recall, till I fixed certain *great* events, with their dates, in my mind, and then associated whatever dates I especially desired to recall with the one of these great events nearest to it, as so far before or after it; and was thus enabled to recall every date at pleasure.

"BATTLES were fastened on my mind by learning and remembering as much of the grounds and locations of the places where they were fought as possible; and in general I associated events with the *places* of their occurrence, so that since memory of places is strong in me, I *hitched on* to it whatever else I desired to remember in connection with it.

"THE SUBJECT MATTER of all the books read, and of speeches, &c., was gleaned, scanned, and recapitulated, till I could give ever afterwards all the leading ideas of them all. A like course of *charging my mind* with whatever I wished to remember, toned up and sharpened all kinds of memory, till now, at the age of seventy-five, when that of most men begins to fail, I find mine still improving."

As the author told that story at a lecture in Pittsburg, in 1851, a gentleman arose and confirmed it thus :—

“Last summer, in travelling on the Pennsylvania Canal, I fell into conversation with a plain-looking, but most intelligent aged passenger, respecting the noted Indians who once roamed over these hills and valleys, when, to my astonishment, I found that *he* knew quite as much about them as I did, although I have been a member of Congress for twenty-five years, had free access to all the books and manuscripts of the great congressional library (since burned), and made Indian history a specialty, because I was preparing the book of my life on the Biography of Noted Indians. I also found he knew as much of Revolutionary history as of Indian, of ante and post Revolutionary as of either, of English as of American, and of Ancient as Modern, and stood perfectly *amazed* at the almost miraculous amount and variety of the historical knowledge of this venerable *savant*. Yet what was my increased astonishment when I sounded him on the modern *sciences*, to find him as perfectly familiar with chemistry and astronomy, metaphysics and mathematics, as with history, and even found that he knew all about your own science of Phrenology, its terms, organs, Faculties, principles, and facts! I could not have believed any human mind could have acquired and retained so much knowledge, and that so varied; and he was this very Mr. McGuigon of whom you have been speaking.”

JUDGE LEWIS also attested that he was the best read *lawyer* in all those parts; for though he had read law only as an accomplishment, yet so perfect was his memory of precedents, judges, cases, and the rulings given, that lawyers would come twenty miles, and pay him large fees for pointing out relevant cases; because whatever case he had ever read, he could recapitulate throughout all its minutest details, names, dates, rulings, and all.

READER, what is such a memory or intellect, thus stored, worth? Can dollars express its value? Yet yours cannot be worse to begin with than was his. Then why will not an equal culture of yours render it equally good? It will! Try!

AN AUDITOR in Philadelphia, who heard this narrative, determined to put its mode of cultivating the memory into practice on English history. Six years afterwards, meeting me, he grasped my hand most convulsively, saying,—

“Professor, I owe a greater debt of eternal gratitude to you than to any other living man! I once heard you tell that story of McGuigon, put it into practice, and from having had one of the poorest of memories, I have come to have one of the very best. I would not take all *Girard Block*” (then the best square of houses in that city) “just for the *improvement* it has enabled me to effect in my own memory! It has made history just as familiar to me as my A B C’s.”

THE PRINCIPLE here stated can be put into practice upon your business, and whatever you do, hear, or see, equally as well as on history. Thus, a merchant, as you sell these and those bills of goods, with their various items, besides recording them in your ledger, as you now do, also charge them off *in your mind* thus: Mr. A. had this, that, and the other items, at so much for each article, and thus much in all; and Mrs. B. had these and those items at prices so and so, the whole so much; and every leisure moment you can get, *think over* the various bills of the day, the items, prices, summaries, &c., as well as on what parts of what page of the ledger they are recorded, what you require to do at such a time, and what to say to such a one at noon, or to-night; and this of any and all like exercises of all the various Faculties of memory.

LECTURES, SERMONS, speeches, narratives, &c., can be treated in like manner, by telling any who will listen all the points of each, so as to rivet them on your own mind; or think of them on retiring — anything to reimpress them.

READER, the *principle* here presented, reduced to practice on whatever you please, can be made to double your memory of any and *every* thing, *every year*, as long as you choose to practise it! You can enrich yourself faster by such culture than by any other means; and *this wealth cannot be stolen or burned up!*

REASON, that crowning Faculty, and eloquence, that gift of gifts, and power of all powers, which mould *mind* and shape human destiny, together with writing talent, man's next greatest gift, can be cultivated in like manner, namely, by the *exercise* of each. To cultivate Expression, talk and speak just as much and as well as possible, in church or prayer-meeting, in debating club, and political or town-meeting, in private party and family gathering, telling what you know and think, have read, seen, heard, &c.; and in writing often transpose, in order to improve words, clauses, sentences, and paragraphs, &c., meanwhile *studying* the most beautiful and impressive ways of presenting your ideas, of which *letter* writing furnishes the very best of all arenas, especially if writing to a friend, and doubly to some loved one.

READERS, you can form no adequate idea of the efficacy of this plan for cultivating, disciplining, sharpening, strengthening, and improving each mental Faculty by itself, every kind of memory, and the mind as a whole. Its *trial* alone can attest how soon and

how effectually you can substitute a perfect memory for your present poor one, and a bright intellect for your present dull, logy one.

MY PROFESSIONAL PRACTICE has literally compelled me to exercise memory, and thus greatly strengthen it. In making out written delineations of character, where companies were examined, or several individuals in succession, being obliged to postpone writing perhaps for days, and till scores had been examined, I meanwhile *charged* memory with the size of the organs of all examined, as well as with what I said of them, till I could find time to write. If I took memoranda I did not refer to them till I had written all I remembered first, and seldom had occasion to make additions. Unless I charged my mind with examinations, they passed from it as those examined left the room, unless they were remarkable, or when my brain was exhausted. To say that this course has doubled my retentiveness several times over, is speaking within bounds. Of circumstances which occurred previously to this discipline, my memory is indistinct; but even trifling circumstances which have occurred since, as visits to particular places and families, conversations, and the like, rarely escape me. Memory of names is still poor, because less disciplined by exercise. In visiting families — and I often have appointments every evening for weeks beforehand — I never once think of writing down time, street, place, or number, nor ever forget them. Following out this principle, I never either lecture from notes or commit, yet am literally crowded with facts and thoughts. “Phrenology Proved,” with its thousands of combinations and reports of examinations, was composed not from notes, but from recollections, from which also I could fill volume after volume, without departing in the least from facts just as they transpired. Nor would the gold of the world buy back, if that were possible, the mere improvement thus effected, unless I could reinstate it by a similar course. No additional efforts shall be wanting to perfect it still further. This personal narrative is not prompted by a boastful spirit, — because no credit is due for having done what business absolutely compelled, — but by a desire to lay before readers another sample from life, for their encouragement and practical direction.

STUDYING PHRENOLOGY furnishes the best possible stimulus of mind, and is therefore cordially recommended both on account of its unfolding the most glorious truths and the richest mines

of thought, and as the best known means of improving memory and strengthening intellect.

This great doctrine of improving the memory by exercise might be sustained and enforced by almost any number and variety of converging facts, and additional encouragement afforded to all who would attain so useful and glorious an acquisition; but is not this amply sufficient both to prove that the powers of memory are literally illimitable, and to encourage all, especially youth, to prosecute this mental culture vigorously and perseveringly? These directions are easily put in practice, and their results sure and invaluable. All, however poor or laborious, can exercise memory, even while actually prosecuting any daily avocation. Indeed, so far from intercepting, it facilitates them all. Even our business transactions themselves furnish perpetual mental discipline. The course here pointed out will actually facilitate business in and by the very act of cultivating memory.

RECALLING THE PAST also furnishes a most excellent discipline of memory. As you retire to rest, spend a few minutes in recalling the events, sayings, doings, &c., of each day. Recall what you did and what occurred when you rose, before, at, and after breakfast, dinner, and supper; what you have said, heard, read, and done through the day; your sales if in business, or meditations if a laborer, and every transaction of the day. Extend this review every Saturday through the past week, and every new year's through the past year, and frequently recall the events of childhood, youth, and life thus far. This course, pointed out in former works, has been pursued by thousands, every one of whom, as far as heard from, has realized from it much more than they expected, many saying that nothing would tempt them to part with the augmentation of memory and intellect thus attained.

I remarked, in a familiar stroll with a friend, that I had urged this review of the past with emphasis, and considered it all-important and invaluable. She answered that she had pursued this course; that at first she wrote down every night, in a diary, the occurrences of the day; that sometimes, when especially occupied or fatigued, she would think over and charge her mind with facts intended for writing till the next day or evening. After a while she could thus bear in mind her proposed records for two, three, four, and finally seven days, more easily than a single one at first.

Meanwhile her memory had become so improved, that although Eventuality was naturally small, yet its retentiveness had rendered her a standing reference. I had before observed that her memory performed remarkably well, though her organ of Eventuality was only average. This apparent contradiction its habitual exercise satisfactorily explained. Even small Eventuality, thus disciplined, will accomplish many times more than large Eventuality allowed to become rusty by inaction. Mark this, ye who complain of treacherous memories.

REVIEWING THE PAST will also show us our errors, and greatly aid in their correction; give us a just estimate of our sayings, doings, faults, and entire character and conduct; and though it may extort a tear of penitence for our imperfections and sins, yet will be found the most effectual instrument of self-control and moral as well as intellectual improvement we can employ; because the pain occasioned by contemplating our errors, and the pleasure of reflecting on our good conduct, will instinctively lead us to avoid the former and practise the latter. Does not this whole subject commend itself to the common sense of every reader, at least enough to warrant its full trial?

RENDERING RECOLLECTIONS PLEASURABLE thus becomes all-important. Since recalling them thus strengthens memory and improves morals, it should be rendered sufficiently inviting to induce its frequent repetition. Memory enables us to re-enjoy the pleasures and re-suffer the pains of life over and over thousands of times. How a single wrong act which leaves a moral stain upon the disk of memory, pierces us with new pangs every time it flashes across our minds; while every recollection of the good and the pleasurable in word and deed sheds on us a bright beam of happiness well nigh equal to that experienced in the act itself; thus enabling us to redouble our pleasures illimitably! How immensely important, then, that all our recollections should be pleasurable, and all our conduct such as to renew our delight every time we reflect upon the past! O youth, be entreated to do nothing which will not bear revision. Bear always in mind that the consequences of conduct do not cease, only begin, with the conduct itself!²¹⁶ And let childhood be rendered as happy as may be, and our whole lifetime be filled with virtuous pleasures, so as to facilitate and induce that revision and its consequent moral and intellectual improvement here urged.

TELLING CHILDREN STORIES becomes also most important. How can it be called into early and vigorous exercise? By telling them stories, and showing them the operations of nature first, and teaching them to read afterwards. How exceedingly fond all children are of stories and facts! What child, as it opens its eyes with the dawn, has not begged, "Mother, please tell me a story," "Please, mother, do tell some stories," more eagerly than they beg for bread? What child cannot be stopped from crying, or coaxed to bed, or to do things, by the promise of being told STORIES, if only "Mother Goose's," sooner than by almost any other means? Yet how often are they impatiently rebuked by "O, do hush up! I've told you all the stories I know" — a score perhaps. The Bible, to say nothing for or against its authenticity, is full of common sense and human nature. It enforces our story-telling doctrine in its requiring the children of Israel to tell their children the Lord's dealings with their nation "by the wayside and by the fireside, when you lie down and when you rise up," and to "write them over their doors, that they may be a perpetual token of remembrance" — thus making it a religious DUTY to tell their children, grandchildren, and great-grandchildren, throughout all their generations, stories of their forefathers' sojourn in Egypt, departure, wanderings, rebellions, and their entire national and family history. The tenacious adherence of the Jews to their "scriptures," renders it well nigh certain that this injunction has ever been and still is scrupulously observed, and accordingly, Eventuality is surprisingly large in them — larger than in probably any other class of people. Corresponding with this is the fact that our best historical and Oriental scholars are Jews. What history equals that of Josephus for accurate minuteness, or the Old Testament as an historical composition merely?

The Indian tribes also have remarkably retentive memories, and accordingly even perpetuate their histories by telling them to their children. The aged grandfather, too feeble longer to chase the stag or wield the tomahawk, taking his grandson on his knee, recounts, with a minuteness and accuracy unknown to us, both the traditionary history of his tribe, together with his own autobiography — the battles he has fought; the enemies scalped, and how he killed them; his journeyings, with all their trifling cir-

cumstances, even to the seeing of a deer, or the flying of an owl. He describes particularly the aspect of the country traversed — its mountains, rivers, and plains, together with all their various objects and appearances. Blackhawk's narrative of his tribe and himself, published soon after his first visit to this country, though dictated after he was seventy years old, commences with the residence of his tribe in Montreal; relates those prophetic revelations which foretold their removal; describes all the incidents connected with their successive journeys, caused by the whites driving them back farther and still farther; tells the particulars of his joining Tecumseh, going to Canada, fighting against Harrison, defeat, and return; gives the details of the war in which he was taken captive; the aggressions and impositions of the whites; his travels through the states; whom he saw; what transpired and was said on particular occasions; and much more to the same effect, with a precision and minuteness rarely if ever found in our own race. The Indians know even more of their national history without books, than we do of ours with; because they tell theirs to their children in the form of stories, while we teach ours to read, and then put our histories in libraries to moulder unused. But uniting these methods would render the attainments of our children almost incredible, far exceeding anything now known. Do we not remember the stories and incidents of childhood with a minuteness and precision altogether surpassing that of riper years? Then why is this decline of memory, when it might and should improve? Because our present educational system prevents its exercise, and thus induces that inaction which weakens, and not because its decline is necessary — because, in short, memory is literally starved for something to recollect; there being little to excite it in school or at home.

Children three years old are required to "sit on a bench," and sit still too, and to say A, B, and spell ab, eb, ib, ob, ub, or "baker," "brier," which they finally learn to do by *ROTE*, just as the parrot says "Pretty Polly," and with as little benefit. The confinement and vitiated atmosphere of school-rooms do children vastly more harm than saying A does them good. Swinging up their arms six hours daily for years, will render them also as feeble as the memories of adults usually become, and by precisely similar means — inaction. The plain fact is, children never should be sent

to school to learn to read or spell, because the school necessarily injures their health, and because mothers can teach them much *faster and better* at home. At school, they are called up to read only two or three times per day, and yet are compelled to sit six long hours just to do what can be done at home far more effectually and without injuring them. Moreover, they take no interest in their studies, or in the other recitations, any more than if in Greek, and therefore derive no benefit, whereas stories and explanations literally electrify them with delight, and of course proportionally strengthen intellect.

SHOW CHILDREN EXPERIMENTS, chemical, philosophical — all kinds. Teach them chemistry, natural history, philosophy, and science generally, before they can read. This doctrine is new, yet true to Nature — strange and true. They can see and remember long before they are old enough to read. Then why postpone education thus long? Our course recommends beginning to educate them even much earlier than now. Before they are three years old they can both remember stories and explanations, and be taught the whole process of vegetation, from the deposit of the seed in the earth all along up through its swelling, taking root, sprouting, growing, budding, blossoming, and producing seed like that from which it sprung. And what if, in learning these and other intensely interesting operations of Nature, they destroy now and then a valuable stalk or flower; will not the instruction and pleasure gained repay a thousand fold? Show them how acorns produce oaks, peach and cherry pits peach and cherry trees, which reproduce other peaches and cherries, and thus of all the ever-changing operations of Nature. Put vinegar into water, and stirring in ashes or pearlash, mark their delight at seeing the mixture foam, and explain the cause. Tell them how pearlash is made by draining water through ashes, which makes lye, and which, boiled down, becomes potash, by reducing which pearlash is obtained. Ask them what they have seen and learned to-day, and when they tell one thing, ask for another, and then another, thus teaching them to particularize. Or tell them a story to-day, and to-morrow, or next week, ask them to tell it to you. Encourage the elder children to instruct the younger; and let the aged grandfather describe the habits and customs of men when he was young; recount his history; tell them stories from the Bible,

or about Washington, the Revolution, England, Greece, Rome, and other things, till their minds are well stored with a knowledge of both Nature and history. By these and kindred means their minds can be started early in the love and pursuit of knowledge long before they can begin to acquire this mental cultivation from books. It is now submitted to the tribunal of common sense and mental philosophy, as well as to universal experience, whether this course is not infinitely superior to the present educational method? — whether the present system does not, by rendering it inactive, even trammel mind, instead of developing it by exercise? — whether this does not cause and account for the miserably defective memories of most adults; that is, for the decline of memory, instead of its improvement, as we grow older? — whether this proposed method is not in perfect accordance with the laws of mind, especially juvenile? Then let them forthwith be adopted.

To CULTIVATE — *Charge* your mind with whatever transpires; remember what you read, see, hear, and often recall and re-impress it, so that you could swear definitely in court; impress on your mind what you intend to do and say at given times; read history, mythology, &c., with a view to weave such knowledge into every-day life; tell anecdotes; recount incidents in your own life, putting in all the little particulars; write down what you would remember, yet only to impress it, but trust to memory, not to manuscript.

To RESTRAIN — Read less; never allow yourself to recount the painful vicissitudes of life, or to renew past pain by remembrance, for this only does damage; but when you find your mind running on painful subjects, change it to something else, and try to forget whatever in the past is saddening.

XXXVII. TIME.

260. — ITS DEFINITION, LOCATION, DISCOVERY, AND ADAPTATION.

THE INNATE TIMEKEEPER — Periodicity; punctuality; ability to tell what time it is, when things occurred, how long since, dates, &c.; cognizance and recollection of duration, the lapse of time, order of succession, and length of time between occur-

rences, &c.; ability to keep time in music, awaken when desired; carry time in the head, &c.

ITS LOCATION is half an inch above Order, in front of Time, and below Locality.

"Time perceives the duration, simultaneousness, and succession of phenomena; is one of the essential attributes of music, some musicians having great facility, others great difficulty, in playing to time, and is situated between Eventuality, Locality, Order, Melody, and Causality, and often acts in their connection." — *Spurzheim*.

"J. D. CHEVALIER, on a steamboat on the Lake of Geneva, told how many minutes and seconds had passed since they left Geneva; soon attracted attention by remarking how many minutes and seconds had passed since we left such and such places; soon promised to tell the crowd the passing of the quarter of an hour, or as many minutes and seconds as any one chose to request; even during a conversation the most diversified with those standing by; and farther to indicate the instant the hand passed over the quarter minutes, half minutes, or any other stipulated division of time; which he always did without mistake, though his attention was often distracted, and clasped his hands at the end of the time specified. He said he had, by imitation, labor, and patience, acquired an *internal movement*, which neither labor, thought, nor anything else stopped, similar to that of a pendulum, which, at each motion of going and returning, measured three seconds, twenty making a minute, and these he added to others continually. On trying him for a number of minutes, he shook his head at the times previously appointed, altered his voice at the quarter, half, and three quarter minutes, and arrived at the precise end of the time specified. He obviously assisted himself in a slight degree by mnemonics, and applied religious names to his minutes, up to the fifth, when he commenced again. He admitted that this internal movement was less sure and constant at night, yet daylight rectified it for the day, if necessary. He said he had acquired this gift by means of labors and calculations too long to be described. His 'internal movement' indicated minutes and seconds with the utmost accuracy." — *Bibliothèque Universale*.

"MRS. G., a nervous but highly intelligent patient, laboring under a moderate *delirium puerperale*, stated, without being particularly questioned, that, though perfectly conscious, she yet had no conception of time, so that sometimes an exceeding long time, at others only a few minutes, seemed to her to have elapsed since she fell into her present state, and felt a strong sense of burning at this point, placing her fingers on the two organs of Time, but nowhere else." — *Dr. Hoppe*.

DR. CALDWELL mentions a citizen of Philadelphia, celebrated for his perception and recollection of the lapse of time, dates, &c., who won many suppers by betting with gentlemen that he could tell the day of the week, month, and year, on which they were married, the day and hour of the birth of their children, &c. I can usually tell what year, month, or day I began courses of lectures in this place and that. It seems to come to me.

ITS ADAPTATION is to PERIODICITY. The past, present, and future appertain to all things. All events necessarily transpire before, after, or with each other. Even life itself is composed of one continuous chain of successive doings and events. From birth, through infancy, youth, maturity, and old age, to death itself, every year, day, hour, second, and item of existence *precedes* its successor, and *follows* its predecessor in point of time. Instead of being placed in the midst of one monotonous now, man exists in the present, remembers the past, and looks forward to the future. But for this constitutional arrangement in Nature, all doings and mental exercises which relate to the past and future would have been annihilated, and all conception of any other period than the present unchanging monotony obliterated, and therewith the existence of years, seasons, months, days, hours, seconds, and everything appertaining to infancy, childhood, adolescence, middle and old age, time and eternity, been extinct to man; which would effectually break up the present order of things. Or with this arrangement in Nature, but without this Faculty in man, though this system of periodicity would have existed, and times and seasons have succeeded each other, yet all conception of the past and future would have been as utterly inconceivable to man as the beautifully blended colors of the rainbow are to the blind, or exquisite music to the deaf. But with this institution of time in the nature of things, and this Faculty in man adapted to it, we are put in relation with all time, and even eternity; can hold converse with what has been and will be for thousands of years each way; enjoy the present, and divide and subdivide the past and future, to our liking; appoint particular times for specified transactions, and tell when they arrive; and have a time for everything, and all things in their season.

PERIODICITY governs universal nature; bids the sun, moon, and stars rise and set at their prescribed minutes; ushers the seasons in and out periodically and in their order; matures grains, fruits, and all the productions of the earth in their respective seasons; renders all Nature one vast but perfect self-time-keeper; and relates infancy and every other period of life to each other by one continuous succession, and all to its final termination in immortality! Its duration, both past and present, is indeed INFINITE. To it, thousands of ages are but a day. Multiply every atom of creation by trillions of eras, and you only begin to recount its past

duration or future continuance! Eternity alone can measure it! And the existence of this Faculty in man adapts and guarantees his existence throughout its illimitable range! Yes, man is indeed immortal! ²¹⁶

261. — DESCRIPTION, CULTIVATION, AND IMPROVEMENT OF TIME, &c.

LARGE — Can wake up at any preappointed hour, tell the time of day by intuition almost as correctly as with a time-piece, and the time between events, and are a natural chronologist; can generally tell when things occurred, the order of events, and the length of time between one occurrence and another, &c.; and keep an accurate mental chronology of dates, general and particular: with large Eventuality, rarely forget appointments, meetings, &c., and are a good historian, and always punctual; in narration give dates; keep the beat in music, and are tormented when it is not kept; preserve the step in walking, and walk in pain with those who break it; recollect what events transpired before, and what after, each other; have or desire a time for everything, and all things in their seasons; wish to eat, retire, rise, &c., at appropriate hours, and note and recollect whatever appertains to times and seasons, such as dates, appointments, chronology, and the like, easily and correctly, &c.

FULL — With cultivation can keep time in music, and also the time of day in the head quite correctly, yet not remarkably.

AVERAGE — With practice; have a good memory of dates and successions, yet without it are rather deficient.

MODERATE — Have a somewhat imperfect idea of time and dates; and with moderate Eventuality and Expression are a poor historian; often forget or fail in chronology.

SMALL — Fail to keep the correct time in the head, or awaken at appointed times; have a confused and indistinct idea of the time when things transpired; forget dates, lack punctuality, and are almost destitute of this Faculty.

PERIODICITY is an almost infinitely useful natural institute. How important is it that sun, moon, and stars rise and set at their appointed times! and what confusion if they did not! Then should not man also have times for all things, and everything *on* time? Was this arrangement created in vain? and man adapted to it for naught? Its absence in Nature would spoil her, and in man,

ruin him. Nature commands, and in fact compels time observance, and the more perfectly we time ourselves by her great clock of the universe, the more perfectly we shall subserve our *own* interests; yet we punish ourselves if we do not. How plainly she teaches and rigidly enforces our having a time for everything, and doing things on time! Then let us appoint specified times to rise, breakfast, dine, sup, study, transact this business and that, recreate, retire, &c. Few things equally prolong life or promote health and happiness. All aged persons are punctiliously regular in all their habits. Nothing prolongs life as much, or shortens it, as does irregularity. How it promotes business despatch, and how much more it enables us to accomplish as well as enjoy!

EACH FACULTY then should have its specified time for diurnal action; but the intellectual and moral should take *precedence* by giving a part of each day to reading, study, worship, meditation, cultivating memory, &c.

TIMING CHILDREN'S HABITS from the cradle, by feeding them, putting them to bed, &c., by the clock, is most promotive of their health and morality, but is discussed in "Sexual Science." ⁶⁴⁰

ITS CULTIVATION by exercise thus becomes as important as the good it confers is great. To do this, carry time in the head; periodize everything; rise, retire, prosecute your business, everything, by the clock; appropriate particular times to particular things, and deviate as seldom as possible; in short, cultivate perfect regularity in all your habits as respects time; notice when appointed times come, and time everything, and establish regular habits, &c. Bear in mind the time of day, and the day of the week and month. Often pass judgment on the time of day, and keep in mind how LONG certain events transpired before or after others. In reading history, impress strongly on the mind the era and order of succession of events recorded. Compare dates, and associate together those events which transpired about the same time. Keep the step in walking and dancing, and the beat in music. Give yourself a certain number of minutes or hours in which to do given things, and note how long you are in doing them. Be punctual in fulfilling all appointments. Above all, set apart particular times for particular things, and mind and keep the appropriations. In short, TIME everything, yourself included.

THE EXTENT to which Time is capable of being strengthened by these and kindred means is truly astonishing — far greater

than is supposed. The experienced nurse, having first charged this Faculty to awaken her in half an hour, or in just one or two hours, as the doctor may have ordered, throws herself upon her couch and sleeps soundly ; this watching sentinel meanwhile counting off the minutes and hours till the specified time arrives, when it sounds the alarm, and wakes up the other Faculties. Many an elderly farmer, unblessed (?) while young with artificial time-keepers, can sleep soundly till the time previously appointed for rising arrives, and always waken within a few minutes of the time set. Many elderly people, habituated to rising at a particular hour, awaken regularly, even when they have been previously broken of their rest. All might and should habituate themselves to these and similar practices, which will soon become second nature, and incalculably serviceable through life. And it is really surprising how soon and easily the system habituates itself to regularity in all things. Magnetized patients, when required to awaken at any specified time, do so almost to a second, and can tell and measure time with an accuracy incomparably greater than any in the natural state.

YET how little is time cultivated from the cradle to the grave ! Few take ANY pains to strengthen it by exercise, but live in perpetual violation of its requisitions ; and hence its almost universal deficiency in American heads. In probably no others is it equally so. Yet this need not and should not be, and would not, if duly cultivated in both early and mature life. One great cause is our almost universal, but

PERNICIOUS RELIANCE ON TIME-KEEPERS, to the exclusion, and consequent enfeebling, of that *mental* chronometer thus bountifully furnished to man. It is perfectly obvious that this reliance on the former tends to diminish the action, and consequently the power, of the latter. If most artificial time-keepers were destroyed, and few others made, men would be compelled to exercise, and thus develop, this important Faculty till it could keep time correctly ; but by carrying the time in our pockets we give this Faculty nothing to do, and it of course does nothing. It thus becomes feeble from mere inaction, and this abridges the pleasure adapted to flow from its full development and vigorous exercise, besides seriously impairing the efficiency and the enjoyments of all the other Faculties. This mental chronometer could be so disciplined as to keep the time in the head quite as correctly as clocks

and watches now do ; would always admonish us of the arrival of appointments and particular periods ; and improve the entire mind and body in ways innumerable, which artificial time-keepers can never effect ; whereas now, Nature's chronometers being laid aside to become rusty, we forget to look at those of art, or perhaps they are "not right," so that appointed times pass unheeded, and the advantages of regularity are not secured. Nature always excels art. Art may be advantageously employed to aid Nature, and to work with and under her, but should never supersede her. We may usefully employ clocks and watches to HELP our mental time-keeper, just as we do arithmetic to aid Calculation, or books to help language, or notes to assist music, or maps to facilitate geography, or logic to aid reason, but never to take its place. It should be the main reliance, they only casual assistants. Only when art can transcend Nature, and human invention exceed and advantageously supersede Divine, may clocks and watches be profitably employed in place of Nature's chronometer ! Preposterous ! This superseding by human mechanism that LIVING time-keeper created by God and bestowed freely on man, must necessarily eventuate in evil — must cripple this important mental power, and thereby impair the entire mind. To avoid this deterioration, discipline this Faculty by keeping time in the head. Yet we sometimes require to and do become so thoroughly engrossed as to be unconscious of the lapse of time ; though we then rarely require time-pieces, till we are through with the matter in hand.

EMPLOYING ALL OUR TIME still more effectually secures these advantages. "Time is money," is happiness, is LIFE itself ; is, indeed, the groundwork of everything : for what can we do, become, enjoy, except by its means ? Is it not, then, too precious to be squandered or misapplied ? Should we allow even a single hour or minute to pass unimproved ? If we do, we experience an irreparable loss ! Time once past never returns ! We have but one life to live, and can live its every year, day, and hour BUT ONCE. A given hour allowed to pass unimproved, an opportunity for enjoyment has flown forever ! We can improve time only WHILE IT IS PASSING.¹⁷ Indeed, the right improvement of time is only another name for every virtue, and for perfect happiness ; its misimprovement, for every sin and woe. "An idle head is Satan's workshop." Yes, *idleness* is the prolific parent of vice, the great clog to progression, and the canker-worm of enjoyment.

Though the slothful may live and breathe, yet they can effect and enjoy little, and therefore live but little in a month, year, lifetime, compared with those who are always doing. Not that we should never recreate. Taking required relaxation only reloads with energy, preparatory to renewed effort, and thus becomes more profitable and pleasurable than continued labor, which weakens by fatigue. But recreation is not laziness. It both renders happy for the time being, and also prepares both mind and body for renewed action and enjoyment, and therefore, when required, doubly fulfils the great end of life. But to sit down and do nothing for half an hour at breakfast or supper, or an hour at dinner, or perhaps allow the morning and evening to pass unoccupied, soon squanders weeks and years irreparably, which, rightly improved, might have contributed largely to our present and future happiness, and that of our fellow-men. To waste time in bed not required for sleep is especially pernicious; because it often begets impure thoughts and feelings, which lead to sinful conduct. To keep perpetually *doing good* to ourselves and others, precludes vice and secures virtue, and is our solemn duty, because the great instrumentality of all enjoyment—the “chief end” of our creation.¹⁵ We are placed on earth to be happy, and to do this we must improve our time. The HAPPINESS experienced in doing every duty is the great bond and origin of all moral obligation—the reason why duty is duty—as well as the reward of virtue. Now, since the right occupancy of our time is the great instrumentality of all enjoyment, it is therefore our greatest moral duty—is the Alpha and Omega of all moral obligation. And behold the reward of fulfilling this requisition of our mental and physical constitution!

To ACCOMPLISH we must keep perpetually doing, or else preparing to do. Who ever knew a great and good man not literally *crowded* with things urgent to be done?—too much so to find any time to waste. Great men are occupied more and still more incessantly the greater they become. Indeed, their very greatness consists in their efficiency, and this mainly in their continuous and advantageous employment of their time. The forming minds of children can never be taught, theoretically or practically, anything more important than this greatest life-lesson, of *improving every minute as it passes* in doing something promotive of their happiness, or that of others. To indulge them in idleness, to let

them grow up with little or nothing to DO, is ruinous, for time and eternity.

DO FIRST WHAT IS MOST IMPORTANT. We may be always doing, yet effect and enjoy little, because busied with trifles. Since life is too short in which to do everything, let us neglect all minor matters until after we have fulfilled the *great* requirements of our being. Out of those innumerable things the doing of which would promote individual or general happiness, to make the best selection is the first and greatest labor. Indeed, wisdom and judgment can be employed nowhere else more advantageously than in choosing *what* we shall do, and what FIRST. In fact, this choice embodies the very acme of all wisdom. Our governing rule should be to do that first which is most important; that is, which, when done, will confer the greatest amount of personal and general happiness, the only correct standard of all valuation.¹⁵ O, what a vast, a lamentable waste of time, this most precious gift of God to man, do we all perpetrate! We consume by far its greatest part in doing things of themselves utterly useless; in making things innumerable of little or no comparative value; in altering dresses, bonnets, and the like, to suit the newest styles; in preparing for and attending trifling, glittering parties, which neither improve intellect nor feeling, but dissipate and deteriorate both; in artificial display, nonsensical amusements, and brainless conversation; in scrambling after money; and in providing and consuming articles of dress, equipage, diet, and the like, utterly useless, and even positively injurious, such as tobacco, tea, coffee, wines, spirituous liquors, splendid houses and equipage, and a thousand things, of which these are samples merely, and all merely to be *fashionable*. A few *animal propensities* now engross most of our time and energies, besides enslaving our entire nature; whereas our *moral* and *intellectual* should guide and govern both our time and pursuits.^{196, 238} Deduct from the sum total of human life all the time spent in providing and consuming unnecessary and injurious extras,—such as in useless cookery; fluttering in the sunshine of fashionable life; acquiring property not required for actual use, &c.,—and the balance would be mighty small; nor is this despicable moiety properly employed. Is it wise or right thus to give our entire time and selves to these few animal gratifications? Were we created merely, or even mainly, to eat, glitter, sensualize, and amass wealth? “No!” answer Phrenol-

ogy and Human Happiness. We have other and *higher* Faculties to feed, the due exercise of which would render us unspeakably more happy than we now are. Journeymen and laborers thrown out of employ hardly know that they can spend their time in anything but labor, little realizing that they could promote their own highest good far more effectually by giving more time to their moral and intellectual natures, and less to their purely artificial and injurious wants. Indeed, men generally act as though to *make* money, or else to spend it in fashionable display or sensual indulgence, constitutes the highest good and only enjoyment of life! They overlook the great law of things, that to be happy they must devote by far the GREATER portion of their time and effort to their MORAL AND INTELLECTUAL Faculties, the gratification of which should constitute the permanent business of life itself.

WASTING OTHER PEOPLE'S TIME is also wrong, yet common. Time is life, and as no one has any right to take another's life, so he has none to occupy his time, except by consent and to advantage. Hence we should either benefit our fellow-men, or let them alone, and be very careful how we trespass on their precious time. Nor should we allow our own time to be wasted because silly fashion requires us to drop all engagements, however pressing, to entertain company. Give no time to others from mere politeness, but consider your short stay on earth too precious to be squandered in dancing attendance at the shrine of fashion!

THE RICH, also, very generally, unnecessarily and wickedly consume the time of the poor; first, in requiring them to do ten thousand things utterly useless, such as gratifying merely imaginary wants, and then in not a quarter paying them for their exhausting toil or precious time. Riches, in fact, consist in possessing the PRODUCTS of other people's time; for what is all wealth but the products of labor, that is, of an outlay of time? "Time is money," and therefore money is time; and to hoard the former is only to possess the earnings of other people's time. Now, by what "divine right" do the rich thus squander the hard earnings of the poor? By what right should one man require and use on himself the entire time and lives of two, ten, scores, perhaps hundreds, of his fellow-men, and then pay them hardly enough to keep their soul and body together. But the GREAT waste of time consists, after all, in

THE WANTON DESTRUCTION OF LIFE by violating the laws of

health, impairing our powers while we live, and hastening death. Strict obedience to these laws would undoubtedly have protracted the life of every reader twice as long as he will now live, and the lives of many several times longer, besides rendering them all several fold more EFFICIENT, and thus have doubled and redoubled our lives many times over. "O that men were wise! that they understood" and practised their own highest good in this respect! Beholding their utter folly and consummate wickedness in thus prodigally wasting, ay, worse than squandering, this short life, besides cutting it still shorter by inducing premature death, should make our "eyes run down with tears" of sorrow for human ignorance and suffering. Women squander most of their time on foolish, ruinous fashion, whereas their time is more precious than that of man, because their maternal and educational relations capacitate them for doing more than man can do. In the name of all that is sacred and valuable in your natures, make the very BEST POSSIBLE use of time, and prolong it to the utmost possible limit by preserving health. Parents and teachers, cultivate this Faculty in children by impressing them with the INFINITE value of time, and the best mode of employing it. And may God impress us all with the transcendent importance of this whole subject, and guide us in the RIGHT USE of our probation!

RIGHTLY TO IMPROVE TIME PREPARES FOR ETERNITY.²¹⁶ Every deed and feeling of this life becomes incorporated into our characters, and goes to make up ourselves; and thus affects us throughout our subsequent life. If the consequences of the right and wrong use of time ended with this life, its right improvement would be incalculably more important than our description, than any description, can possibly represent. But they do not. Time is the door to ETERNITY. The use we make of our time here mainly constitutes our conduct and moulds our character in this life, and they govern that which is to come! Time and eternity are separated from each other only by the mere act of dying;²²⁶ are, in fact, only a continuation of that endless duration into which the first dawns of consciousness usher us. Duration, existence, is illimitable.²³³ Man's endowment with Time puts him into the midst of this endless duration. We shall therefore exist forever! Why thus compel us to take cognizance of illimitable time, and tantalize us with immortal hopes only to blast them? Does God thus sport with man? He will protract that existence infinitely

beyond the utmost conception of imagination and conception united, and not behead time and eternity. Will He, by giving us this Faculty, put us in relation with eternity only to blast this hope? We, our own identical selves, that is, our mentalities here, will continue there, and the consequences of our terrestrial conduct will be coeval with, and constitute our eternal destiny. This inference grows necessarily out of our possession of Time — a doctrine already proved from another stand-point,²¹⁶ both thus reconfirming both. How full of promise and motive this doctrine, that all the self-improvement, good deeds, and holy feelings cultivated in this life will shed their benign and progressive influence upon us throughout that illimitable duration in which we are placed! O, who will fold their hands, and neglect to cultivate their godlike capabilities? Who will let the seed-time of this life pass without improving it all to sow *such* seed, to be increased, not a hundred fold, but infinitely, against the harvests of eternity? Whatever we may sow in any given day or hour in this probationary state, we shall reap perpetually hereafter, both throughout the subsequent portion of this life and the entire range of that which is to come! O merciful God, guide us all in the right use of that time which Thou hast thus graciously bestowed upon us! Thus far we have misspent and abused this heaven-born and heaven-tending gift. At Thy feet we implore pardon for the past, and pray for strength and wisdom rightly to improve the future. O, guide and aid us through time, in our eventful preparation for *immortality*! But

SIN HERE DETERIORATES FOREVER. As a limb once amputated leaves us maimed for life, and as a sin once committed can never be erased from the tablet of memory,²⁵⁹ or its moral stain wholly expunged from the garments of this life; so all deterioration of our moral or intellectual characters in this life lasts while the soul itself exists. Are the legitimate consequences of our virtuous conduct to be continued to us through eternity, and not of our vicious? By what law is the one retained, and the other rescinded? How fearful, then, are the consequences of probation both ways!

XXXVIII. TUNE.

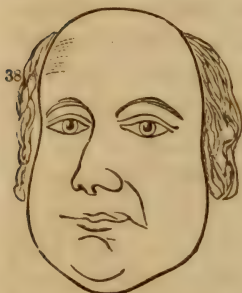
262.—ITS DEFINITION, LOCATION, DISCOVERY, AND PHILOSOPHY.

THE NATURAL MUSICIAN — The musical inspiration, knack, and genius; love of music; ability to learn tunes by ear, and rehearse them by rote.

ITS LOCATION is in the lateral and lower part of the forehead, over Calculation, externally from Time, and three fourths of an

TUNE VERY LARGE.

TUNE VERY SMALL.



NO. 190.—HANDEL.



NO. 191.—ANNE ORMEROD.

inch above, and slightly external to Order; and when large fills out the lower frontal portions of the temples. Still, being located in a kind of corner, where large Perceptives crowd it outwardly, large Constructiveness forward, large Ideality and Mirthfulness downward, and the temporal muscle passing over it, its

position varies somewhat, which renders observation more difficult, except in the heads of children, in whom it is generally larger than in adults, and easily and accurately observable. It is very large in that prince of music, Handel, but deficient in Anne Ormerod, who had no musical perception.

"It assumes two forms. Either the external angle of the forehead immediately above the external angle of the eye enlarges itself considerably towards the temples, so that the lateral parts of the forehead overlap the external angle of the eye, in which case all the frontal region above the external angle of the eye, as far as half the height of the forehead, is considerably prominent; or else there rises immediately above the external angle of the eye a pyramidal prominence, the base of which is above the external angle of the eye, and the point extends to the external anterior edge of the forehead, half way up its height; so that musicians have the lower part of the forehead either very broad or square. Tischbein had made the same remark of great musicians, saying, 'They have ox fronts.' Frequently, the foreheads of musicians appear much swollen above the external angle of the eye. Mozart, Haydn, Pauer, Naderman, Dussch, Mechessi, Viotti, and others illustrate the first, and Beethoven, J. Haydn, Gluck, and many others the second. In Mara and twenty-four other celebrated female singers this part is so full that all must see that this is the constant mark of musical genius.

The countenances of mere mechanical players, who play from habit, express none of that abandonment and sweet delight which penetrates the whole soul of the true musician.

"A GIRL FIVE YEARS OLD was shown me that repeated all she had ever heard sung or played on the piano, and retained whole concerts she had heard but twice, yet learned nothing else. This turned my attention to memory, when I found many who had an excellent memory for certain objects, with a feeble one for others, and I admitted a memory of tones. I found those who excelled in remembering tones were usually good singers, and I concluded that this talent extends much beyond this kind of memory, and comprehends whatever relates to tones. I observed the heads of celebrated musicians, several of whom had the superior lateral part of the forehead narrow, but the temporal part broad, their foreheads thus forming a segment of a truncated cone, which I thought the external sign of musical genius. But I soon found that Beethoven, Mozart, Kreibig, &c., had the superior part of the forehead large, which made me renounce the truncated-cone form. I moulded the heads of several musicians, of the highest merit, and finally discerned its location, along with the counter proofs of its deficiency. After this I taught it boldly.

"HANDEL had hardly begun to speak when he began to compose music. Piccini, from his tenderest infancy, showed a decided taste for music. Mozart travelled through Europe when six years old, playing on the piano with great power, soul, and taste. Desabs, at twelve, played a concerto on the violin, beset with difficulties, with a vigor and address altogether extraordinary. His style was grand, and full of energy. Miss Bills gave concerts in Paris when only eight. Crotch evinced an extraordinary talent for music at two. Crouchly played on the harpsichord at three, and at six became a virtuoso. Baron de Praun, at ten, astonished all the savans of Rome as a virtuoso; executed the most difficult concertos of Rhode with a taste and precision which astonished Paganini himself; answered over a hundred questions; was knighted by the Pope, and decreed a gold medal. Such musical prodigies are often ordinary in other respects. An idiot girl, who ate charcoal, and gnawed bones like a dog, sang forty songs by heart with precision. Many are insane on music. All this proves that music is a fundamental Faculty."— *Gall*.

"THE HEADS of male singing birds have much larger Tune than females of the same kinds. There is a striking analogy between colors and tones."— *Spurzheim*.

"IN studying the size of this organ, 1. Examine the integuments over the organ. 2. Examine it by a front, and, 3. by a profile view of the head. 4. Then examine the angle of the forehead by looking from the corner of the eyebrows upwards; and finally looking downwards on it; meanwhile moving the head so as to see it in various lights."— *McCull*.

ITS ADAPTATION is to the musical octave. This scale of harmonious sounds exists, and is the same throughout all time. Even the sweet warbles of feathered songsters accord with it.

Music is music the world over. Not only does this musical element exist, but man is also endowed with a Faculty which puts him in relation with it, which renders him a musical being. Indeed, this element constitutes an integral portion of every human being, as much as lungs, or Observation. All are endowed with more or less of it, as much as with hands, or Appetite. It is as necessarily a portion of every mind as reason or memory. None can be born without some of all the Faculties, Tune of course included. This Faculty adapts man to this musical ordinance of Nature. It renders those gradations and successions of musical sounds which constitute music to the refined Anglo-Saxon, musical to the red men of the forest, and to the sons and daughters of Siberia and China, and concord delightful and discord repulsive among all civilized and savage nations, and throughout all past and coming time. It also capacitates man to experience a great amount of exalted pleasure in hearing and making music, and is even the instrumentality of some of the most exquisite and thrilling emotions of his being. This faculty blotted out, no one musical note could be distinguished from any other, no conception of music could exist, and therefore that impassioned delight now experienced in its exercise would be unknown. But with both this element in Nature and Faculty in the human soul, we can experience and express some of the most elevating, refining, and delightful emotions of which our natures are susceptible.

263. — DESCRIPTION, INFLUENCE, AND CULTIVATION OF MUSIC.

LARGE — Possess extraordinary musical taste and talent, and are literally transported by good music; and with large Imitation and Construction, fair Time, and a fine Temperament, are an exquisite performer; learn tunes by hearing them sung once; sing in spirit, and with melting pathos; show intuitive taste and skill; sing *from* the soul and *to* the soul; disdain the trammels of notes, gamuts, fa-sol-la, &c., and burst forth in spontaneous expressions of this musical passion by harmonious sounds; employ notes, instruments, and the science of music as secondary attendants only, not as principals; easily learn music by rote; catch tunes by hearing them sung a few times, or even once; love music, and sing spontaneously, or with the true spirit

and soul of music; learn to play on musical instruments with ease, and as if by a kind of instinct; easily detect discord, and are pained by it; and love, as well as easily learn, whatever appertains to music; have a nice perception of concord, discord, melody, &c.; enjoy all kinds of music; can make most kinds, and play well on musical instruments: with large Beauty, impart a richness and exquisiteness to musical performances; have a fine ear for music, and are tormented by discord, but delighted by concord, and take a great amount of pleasure in the exercise of this Faculty; with large Force and Destruction, love martial music; with large Worship, sacred music; with large Friendship and Love, social and parlor music; with large Hope and Worship, and disordered nerves, plaintive, solemn music, &c.

ITS COMBINATIONS are inimitably beautiful. Combined with Expression, and the social feelings, it expresses affection and love; with Force and Destruction, it revels in the martial sounds of the fife, bugle, and drum; with Construction, it whiles away the tedious hours of labor by song; with Worship, sings songs of Zion, and elevates and purifies the soul by kindling and expressing the sentiments of devotion, gratitude, and praise; with Parental Love, sings cradle ditties; with Mirth, sings comic songs; and with unbridled Amativeness added, joins in boisterous revelry and mirth. To these combinations there is no end. They can be employed to express most sweetly and powerfully every feeling and sentiment of the human soul.

FULL — Have a good musical ear and talent; can learn tunes by rote quite well; and with large Beauty and Imitation, can become a good musician, yet will require practice.

AVERAGE — Have fair musical talents, yet, to be a good musician, require considerable practice; can learn tunes by rote, yet only with some difficulty: with large Beauty and Imitation, may be a good singer or player, yet are indebted more to art than Nature; show more taste than skill; and love music better than can make it.

MODERATE — Have moderate taste and talent for music, yet, aided by notes and practice, may sing and play quite well, but will be mechanical, and lack that pathos which reaches the soul; find difficulty in distinguishing notes from each other, or learning tunes "by heart;" are obliged, in singing and playing, to rely on

notes, and perform mechanically; fail to impart the *spiritual* in music to performances; and are indebted more to musical art and practice than to intuitive musical taste and capability. Still, a fine Temperament and large Beauty may love music, and be pained by discord, yet be unable to perform.

SMALL — Learn to sing or play tunes with great difficulty, and that mechanically, without emotion or effect; have scarcely any musical idea or feeling — so little as hardly to tell Yankee Doodle from Old Hundred.

ITS POWER to awaken all the Faculties to the highest pitch of intensity and fervor is unattainable by any other means. How martial music inspirits the soldier with an ardor for deadly combat which nothing else can awaken! How national songs inspire the soul with love of home and country! By what other means can love be as readily excited, or as rapturously expressed? Mothers *sing* their most enthusiastic yearnings of maternal love. It lauds or derides in verse and song. "Let me make a nation's songs, I care not who makes their laws." Why? Because song so thoroughly imbues the soul with its sentiments. Who can resist the convulsive power of the comic in song? Can it possibly be expressed more effectually? Or can the plaintive? What will equally draw tears from the sternest nerves? Or what equally awaken gratitude, or contrition, or animation, or fear? Or what equally infuse new life and vigor into every physical and mental function? Or what as well disseminate a cheerful influence throughout the entire being, or exhilarate both soul and body? Or what inspire the divine sentiment of praise to God, awe of His majesty, thanksgiving for His goodness, penitence for sin, and entire consecration to His service as much? Neither preaching nor praying bears any comparison with singing, as a means of exciting a devout and holy frame of mind. Have a "revival" without singing! As soon a summer without the sun. But above all, it can superinduce a holy, heavenly, exalted state of mind, a kind of *spiritual trance*, that most exalted emotion which man can experience on earth, in which his soul communes face to face with its God, and becomes imbued with His entity, more than by all other instrumentalities. Prayer is often one of its ushers, but music more frequently and effectually. This holy spell, this foretaste of heaven, mortals rarely enjoy. It is too

near heaven for our earth-enthralled souls often to reach, but a heaven indeed when thus attained; is in fact a state of holy aspirations and heavenly love! Crumbs of heaven! Literal foretastes of those ecstatic joys which constitute its bliss. This state of rapture, in which the whole soul becomes thoroughly melted with holy tenderness, and dissolved by the spirit of eternal Light and Love, music can do more to induce than all else combined; and can be so practised as to become the very chantings of another and a better world, and more effectually to prepare man to join the chorus of heaven than all other means united. Yet

WHEN PERVERTED, it can be employed to enkindle and express the worst and most gross and sensual passions of debased and depraved humanity! The carnal revellings of Bacchus could proceed without music no more than without wine. The intoxicated sing. The debauchee must carouse to music. Nor is there a depraved or fiendish passion of human nature which music cannot reach and stir up to a higher pitch of infernal raving than all other means and motives united.

THE CULTIVATION of an instrument of human happiness and moral purity thus all-powerful should be commensurate with the good it is capable of conferring. If

“The man that hath no music in his soul
Is fit for treason, stratagems, and spoils,”

all youth, all adults, should cultivate this refining sentiment as a means both of banishing carnality, and promoting moral elevation and purity. All children have this purifying gift as necessarily as eyes. To cultivate music is to diminish gross tendencies and sensual propensities, and develop the higher emotions and holier aspirations of our nature. As a source of innocent amusement, of recreation, and refined pleasure, what equals music? How can we spend an hour daily more agreeably? Let every family meet once a day or week for a real hearty sing, and their sing will give them more pleasure than they will take all the rest of the day.

IT IS MOST HEALTHFUL. Both singing and playing on wind instruments invigorate and enlarge the lungs by inducing their full and frequent inflation. They also greatly increase the amount of air inhaled, promote digestion, and give action to all those

internal organs so liable, especially in the sedentary, to remain inactive. Hence, it of course actually *prolongs life*, as well as greatly enhances all its pleasures. Good singers have excellent health and ample busts, because singing develops both. Hence their vocal power and flexibility, as well as that intensity of feeling so indispensable to musical soul and pathos. Strength of constitution is also essential to strength of lungs, and this to power of voice; so that a clear, strong voice indicates a good constitution, at least by Nature, while a weak, husky, quackling voice betokens a feeble constitution. A good general organization is requisite to good singing; and musical practice naturally improves both the entire physiology and mentality. Some medium singers, or rather squeakers, induce bronchitis, but never those who sing naturally, which is indispensable to musical excellence. Those who sing the loudest by no means always sing the best. Singing induces bronchitis only when it is overstrained and artificial, and those very conditions which impair the voice also deteriorate the singing; but than good singing, few things are more promotive of health, life, and happiness. Excellent musicians have highly-wrought physiological Temperaments or exquisite physical organizations. Singing promotes these by promoting fine feelings, and enhancing delicacy and refinement of sentiment.

ITS EXERCISE, like that of all the other Faculties, is the grand panacea both for strengthening it when feeble, and still further increasing its capacity in all stages of development. The great cause of its deficiency is its neglect. Unexercised, it declines. The more we sing, the more we augment its power and reap its advantages.⁶⁴ Then let all learn to sing, and, if possible, play. If time is scarce, take time; for what is more important? For time thus taken will be made up many times over, by its redoubling mental and physical efficiency, and by prolonging life.

CHILDREN AND YOUTH, above all things, should be encouraged to sing. The growing custom of relieving the tedium of the school-room by interspersing music is admirable. Let it be practised often through the day, and throughout all the schools in Christendom! It greatly promotes study, and facilitates the government of the school, as well as cultivates this delightful

and moralizing Faculty, and also renders the school room attractive, instead of repulsive. It will keep alive this strong native passion, now allowed to slumber, and finally die by disuse. As all children have this Faculty by nature, all can or could have become good singers and players, if it had been early and duly cultivated. Let children be encouraged to tune their young voices when about the house and fields, both singly and in concert, as well as persuaded to sing, instead of contending. Let boys be encouraged to whistle and play on instruments, and laborers make field and forest ring and echo with their lively, thrilling notes. Let mothers especially sing much to their children, as well as strike up cheerful lays when about the house and garden, so as to inspire this divine sentiment in all about them, besides thereby giving unrestrained expression to those lively, buoyant, elevated, happy feelings so abundant by nature in their souls. Song in woman is inexpressibly beautiful. She is pre-eminently adapted to pour forth her whole soul in strains of melting pathos; a better natural musician than man; and hence can diffuse in society those pure feelings and holy aspirations inspired by female singing. She can thereby charm her wayward children, and supplant the angry by the enchanting and subduing. When her children become ill-natured, she can sing them out of temper into sweetness much more easily and effectually than by scolding or chastisement. One sweet tune, when they are wrangling, will quell wrath and promote love a hundred fold more than whips. The former is irresistible, and tames down their rougher passions at once; the latter only re-inflames. Sweet music will hush any crying child, and dispel anger as effectually as the sun fog. If mothers would sing their children out of badness into goodness, sing to them to make and keep them good, and because they are good, how sweet and heavenly dispositioned they might render them! Tune should therefore be an almost indispensable qualification and pre-requisite for marriage, and then be cultivated after marriage, even more than before; whereas domestic cares too often drown its happy notes. Home is the very orchestra of music. All women should be good singers and players, and may often avert the ill temper and contentiousness of husbands by charming music. Angels live in song, and as woman approximates nearer to them than any other

earthly creature, let her cultivate in herself and all around this heaven-born and heaven-tending gift.

INSTRUMENTAL MUSIC is also cordially recommended, because it can be executed so as to be delightful and beneficial, and playing on wind instruments is calculated, unless carried to excess, to strengthen the lungs. Still, no instrument ever made by man can equal the *human voice*, either for melody, richness, expression, or musical effect.

THE PERVERSION of music begets evils commensurate with its blessings. Hence the Quaker doctrine and practice of discouraging, almost interdicting it, has much force; yet no abuse of anything should ever interdict its natural use. As well refuse to eat or drink because some eat and drink too much, or interdict reason because it is often abused. No human Faculty was ever created to lie dormant, nor can the action of any be suppressed without creating a great mental blank and blemish, and weakening the entire mind, as much as the loss of a limb mars and impairs the body. Better lack a good than create an evil. But such perversion need never occur. It consists in exercising Tune in connection with animal propensity, whereas music should be exercised under the dominion, and employed mainly to excite the moral sentiments. This landmark is fundamental, and too obvious to require comment, and will constitute an infallible guide to all the blessings music is capable of conferring. Let us practise music, but cultivate elevating, purifying music, and beware how we indulge in that which is sensual and demoralizing.

NATURAL MUSIC VS. ARTIFICIAL. As all is not gold that shines, so all is not music which makes believe. Music is a natural sentiment, not a merely artificial requirement. The flute and piano may be thrummed mechanically with very little exercise or culture of this Faculty. Artificial music neither comes from, nor reaches, the soul. It may awaken wonder at the skill of the performer, but neither stirs up the deep fountain of feeling, nor sanctifies and makes happy. Only when art can surpass nature, and man outdo his Maker, then, but never till then, can gamut music excel the outpourings of the human soul! And yet many music teachers actually forbid singing by rote! As well pull out the teeth to help eat! Teach them to sing by ear, *firstly and*

mainly. After they have thus learned to sing well, they may advantageously learn the science of music, and to read music from notes, but never before, nor as a musical reliance. Learning to sing by rote is also as much more easy and expeditious than by the gamut, as is learning to walk on the feet than on the hands; because both of the former are natural, the latter artificial. The application of color to music, in representing certain musical sounds by certain colors, is undoubtedly advantageous when, and as far as, notes facilitate music; because Tune and Color are near neighbors in the head, and may therefore properly be associated in action; but no invention for teaching music mechanically can ever either supply the place of Nature, nor be relied upon instead of the ear, unless it thereby proportionally extinguishes the *soul and power* of music; and in general, the more *skill*, the less *music*. Burning every musical note, and making no more, would undoubtedly facilitate the acquisition, and enhance the power and pleasure of this Faculty, by *compelling* us to rely wholly on God's musical lessons, instead of human ingenuity. Still, notes should not be interdicted, only made secondary to the ear, as to both time and utility. If we could have but one, give us the ear; yet as with arithmetic, so with notes; rather none, than notes to the exclusion of the ear. Colored people are natural musicians, and often, especially at the south, make hill and dale resound with peals of thrilling music, yet rarely ever learn to sing or play by rule, but intuitively, or by the natural exercise of this easily cultivated Faculty.

THE IMPERFECTIONS OF MODERN MUSIC are too numerous, and its errors too glaring, to pass unexposed and unrebuked. The music of our oratorios, concerts, theatres, parties, and even churches and parlors, is almost entirely artificial. The remaining vestiges of natural music are indeed few and trifling. It is mostly strained, labored, and distorted; and therefore enkindles comparatively but little emotion. Sacred music, if natural and spontaneous, would alone fill all our churches with worshippers, and however dull or sectarian the sermons might be, keep up far more devotion than exists at present. Artificial music in churches is like paint daubed on thin, pale features. Hence religious singing should be executed by those who feel truly religious emotions. How can the irreligious sing praises to God!

As well have sensualists to do the preaching and praying! Devotional feelings are as indispensable to sacred music as to prayer or exhortation, because they alone give life and spirit to either. Artificial choir-music produces far less religious effect than the uncultivated prayer or camp-meeting melodies, and lulls to sleep spiritual worship as effectually as does formal preaching or praying. All three are on a par. To reach the soul, singing must come from the soul. As those should lead in exhortation or prayer who feel devout, because no others can speak or pray "in spirit and in truth," so, and for precisely the same reason, should no one lead in singing but he who can sing with the religious sentiment, as well as a musical voice. Far better less execution, and more musical inspiration. Yet duly cultivate this Faculty, and unite both. All are capable of becoming as good singers as any now are. Nature has given every human being more or less of this primary element. Early and assiduous culture will, therefore, endow all with good taste and execution. This organ ranges several degrees higher in children than adults, simply because God bestows more music on us by nature than we develop by culture. The artificial music we are rebuking in part causes this decline. Though all children have Tune sufficiently developed, if improved by culture, to render all good singers and players, yet artificial singing neither awakens nor strengthens this taste or power to execute, which therefore decline from mere inaction. Thus weakened, girls are set down to the piano as a task, and compelled to practise perhaps several tedious hours daily, from notes; and hence, unaided by any relish for their irksome task, inevitably become tired and disgusted. Still, they must learn to play in order to be attractive, — that is, to catch husbands; and when this "chief end" of modern female education is attained, its practice is laid aside; whereas, if they were encouraged from childhood to sing by rote while about the house or employed with the needle, music would be so delightful as to be continued through life, and thus pour a continual stream of pleasure into both their own and families' souls.

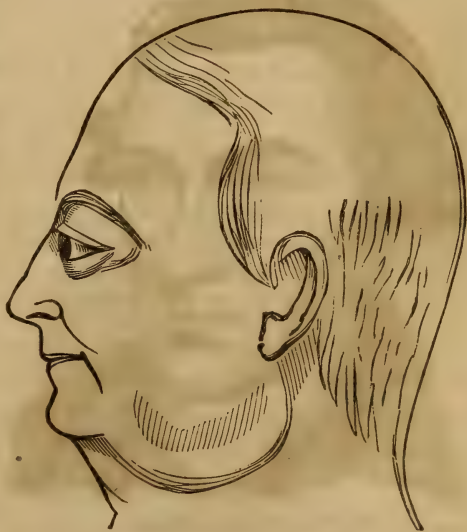
XXXIX. EXPRESSION, OR "LANGUAGE."

264. — ITS DEFINITION, LOCATION, DISCOVERY, AND ADAPTATION.

THE ORATOR — Fluency ; communicating talents ; volubility ; expression by language, signs, gestures, looks, actions, intonations, &c. ; ability to learn and speak different languages ; grammatical correctness ; freedom, copiousness, versatility, and power of expression ; memory of words. In excess it creates verbosity, pleonasm, repetition, garrulity, circumlocution, and excessive talkativeness.

ITS LOCATION is above and partly behind the super-orbiter plates, and over the eyes, which form the roof of their sockets. In proportion as it is developed, it crowds those plates downward and outward, which presses the eyes down and forward, as in Colonel Gad Humphries, in his day our best Indian interpreter. His eyes appear as though something behind them was crowding them out of their sockets. See how they stand out beyond the cheek bone — the best standard points from which to estimate its size, because though it may be large, yet the Perceptives may be still larger, in which case the latter will project forward still farther, even beyond large Expression. Hence the fullness of the eyes should not be compared with the eyebrows as much as with this bone below them, which, not being subject to kindred mutations, forms a correct measuring point of observation. When, however, the person is tall, and his phrenological organs therefore long, as in Henry Clay, this organ also becomes elongated, so as to run forward

LANGUAGE VERY LARGE.



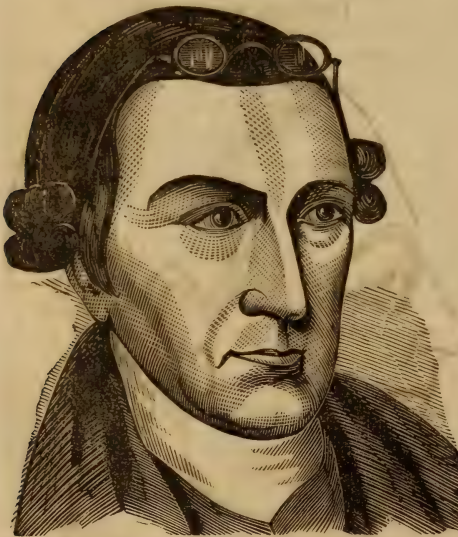
No. 193. — COLONEL GAD HUMPHRIES.

over the eyes, and thus crowd them more downwards than outwards. In such cases the eyes are set far below the eyebrows, and their under portions press out the under eyelids, where a close eye, aided by this suggestion, will readily detect its development and deficiency. He was one of the very best of story tellers, and an inveterate talker. With inferior facilities, he had learned to speak several foreign languages just from occasionally hearing them spoken, and learned them so easily that he was chosen government interpreter to the Seminole Indians, whose language, though exceedingly difficult of acquisition, he learned in four weeks. So retentive was his verbal memory that he required to hear no word or expression interpreted more than once, always to remember it. He could repeat a sermon verbatim, just from hearing it delivered. He had all the natural elements of a splendid orator, which he would have become but for his ease-loving disposition. Large Expression accompanies his Temperament more than any other.

PATRICK HENRY probably surpassed all modern orators in

LANGUAGE AND SUBLIMITY LARGE.

LARGE.



No. 194.—PATRICK HENRY.



No. 195.—CHARLES DICKENS,
WHEN YOUNG.

native eloquence, and in all his likenesses this organ amounts almost to a deformity. This coincidence of this most extraordi-

nary gift, with an equally extreme of eloquence, speaks for itself, and needs no comment. This organ is small in Brunell, but remarkably developed in Charles Dickens, whose descriptive powers and command of words have not been surpassed by any modern writer. And his intonations were most expressive.

"THE organ of verbal memory rests on the posterior half of the roof of the orbit. Ninety-nine in every hundred who make collections have large, flaring eyes. A great diameter of the head from one temple to the other indicates memory of words. Breadth at the root of the nose, and distance between the eyes, also indicate it. When the inferior part of the forehead projects greatly, prominent eyes seem sunken, even though their orbits are shallow. Such eyes are well cut, well opened, and the ball advances in a half sphere beyond the inferior part of their orbit. It is very large in Milton, who wearies with his names. Two sunken-eyed domestics, after eight years' trial, could not retain the names of my patients. All noted philologists in all ages have this form of eyes."

"IN MY NINTH YEAR my parents sent me to my uncle's, a curate, who, to inspire me with emulation, associated me with another boy who committed easily, while I was reprov'd for not learning lessons equally fast. Both were then sent to Baden, where, among thirty scholars, I always found it large in those who recited easily, though poor in composition. Two of these pupils surpassed even my former schoolmate in learning by heart, and both had such large, flaring eyes that they were nicknamed 'Saucer-eyes.' Three years later, at Bruchsal, scholars with saucer eyes again mortified me by excelling me in learning by heart. Two years after, I went to Strasburg, where those who learned easiest by heart again had large, flaring eyes, yet in other respects were only indifferent scholars. I could not avoid the inference that eyes thus formed indicated an excellent verbal memory. I afterwards said to myself, if memory has its external mark, why should not each of the other Faculties also have theirs? This gave the first impulse to my researches, and occasioned all my discoveries." — *Gall*.

"SOMETIMES the eyes not only project, but are also depressed, and then the under eyelid presents a sort of cell, and appears swollen. This organ occupies a transverse situation in the midst of the perceptive Faculties. Cuvier says, Broussonet, the famous botanist, after an epileptic fit, could never recollect proper names, or substantives, though he recovered his prodigious memory of other matters. He knew the forms, leaves, and colors of plants, and recollected their epithets, but could not recall their names."

"IT makes us acquainted with arbitrary signs; remembers them; judges of their relations; and gives a disposition to indulge in all exercises connected with words. Language must have its laws as well as color or melody. The spirit of every language is the same, just as is the science of all kinds of music; that is, the laws or principles of music and language are universal and constant." — *Spurzheim*.

"PERSONS in whom this organ is large abound in words. In ordinary

conversation their expressions flow like a copious stream. In making a speech they pour out torrents, and when reflection is deficient, repeat the plainest sentences, because of the delight felt in mere articulation. 'Thomson's Seasons' are chargeable with redundancy, and in his busts this organ is very large. Poverty of style in speaking and writing results from its deficiency." — *Combe*.

"PERSONS largely endowed with verbal memory recite long passages, a great number of verses, an entire play, from having read it once or twice, and on all occasions quote classical authors. A man thus gifted was presented to Frederic II., and, secreted behind a screen, heard Voltaire read some of his new verses to the king, who said they were his own old verses copied, and, to prove it, called this man, who repeated them verbatim, to Voltaire's great provocation." — *Gall*.

LIKE CASES by thousands have come under the Author's observation. In 1836, Theodore D. Weld, who brought Isaac T. Hopper, J. G. Whittier the poet, Arthur Tappan, and hosts of other notables to test Phrenology, brought Saxe, a Jew, to whom I ascribed extraordinary verbal memory, and who then attested that he could repeat correctly *every verse* of the Hebrew Bible! All Phrenologists regard it as established; yet Gall thought there were two organs, one for remembering names, the other committing to memory, while Spurzheim and Combe admit but one. My own observations favor the existence of two; as does also my favorite doctrine of adaptation. A little reflection will show the absolute necessity of designating every person and thing by some *name*, as John, Samuel, book, horse, &c.; otherwise they could not be described. Men christen things as naturally as they look. None see anything without calling it something. This naming Faculty is both a universal fact and a philosophical necessity. Nicknaming persons and things is one of its phases of action. Its adaptation is to nouns.

EXPRESSION is the adaptation of its other part. All things manifest themselves. Murder will out; so will everything else. All action in Nature and in man, like ignited powder, is explosive, and seeks vent. The sun *expresses* his light and warmth. All our Faculties are declarative. One cannot love, hate, admire, &c., without *manifesting* whatever thoughts and feelings are felt. All animals, all vegetables, all things, proclaim their existence and doings, — that is, *tell* all about themselves.

NATURAL LANGUAGE is one form of this expressive element. This mode of communication is common to all men, savage and

civilized, throughout all ages, and both adopted and understood by all. That natural language of the Faculties already mentioned⁶⁰ is but one of its multifarious aspects. Whoever experiences joy, grief, distress, cold, hunger, pain, panic, and everything else, tells all beholders *what* they are and feel, and about how much; and without the possibility of deceiving; for the very deceptive attempt unmasks itself. Those who feel ridicule are compelled to express it. Their facial muscles will twitch, in *spite* of themselves. Devotion, levity, glee, rapture, anger, kindness, taste, sense, nonsense, &c., &c., declare themselves, so that savages recognize them in the civilized, and they in savages, just as easily and fully as either in their own "kith and kin."

ALL ANIMALS both express and understand this language among themselves, and in mankind. A hurt dog cries much as does a hurt child. A shot bird expresses pain, and implores pity; so does a wounded deer. Dogs know when their masters are pleased, angry, kind, fond, &c., and even what they say. A good old dog, getting decrepit, heard his owner *talk* about shooting him soon, and though before always in his woodshed corner, he hobbled off, stole back nights for food, to keep from starving, and kept out of sight till cold weather compelled him to die if he remained out, when he came back, saying, imploringly, in all his actions, "Please *don't* kill me." That monkey's talk, is perfectly apparent. Crows utter notes of warning; hens cackle with delight over laid eggs; fighting animals and fowls challenge each other, and brag, and when amorous, say so very plainly, and understand each other, as bulls in bellowing, horses in neighing, frogs in piping, locusts, crickets, &c., in croaking, and thus of other illustrations innumerable. Who can dispute that animals both talk and understand each other, and man? How else could we drive oxen by haw, gee, whoa, &c.?

ARBITRARY WORDS, or spoken and written languages, constitute another of the many phases of this great natural element of expression. All mankind, from time immemorial, have expressed their mental operations by words, only spoken by the lower, spoken and written by the higher. And as a general thing, uttering any word expresses its meaning, thus: long has to be drawn out in its utterance, short cut off short; hard so uttered as to express its hardness, and soft the converse; while round, rough,

bitter, &c., express their meaning in their formation. Man imitates young animals in calling their mothers, and is much the same in all languages. I found the Japanese had many words formed quite like ours, endings excepted, for designating the same things; that is, many of their nouns and verbs are like ours, and have the same meanings.

ALL LANGUAGES are constructed substantially alike. All have nouns, verbs, adjectives, tenses, moods, conjunctions, particles, &c., showing that "parts of speech" are inherent in the very constitution of all languages, and therefore natural, not arbitrary, and governed by fundamental laws of expression. Words are indeed handy articles. Man is constitutionally communicative. He has thoughts, knowledge, and feelings, to impart which is pleasurable to himself, and profitable to his fellow-men. But for some such arrangement, all interchange of ideas and sentiments must have been unknown and impossible! Blot every word ever used forever from existence, and let no others be substituted, and totally abolish writing, reading, printing, and conversation, and what a complete business, social, intellectual, and moral stagnation would inevitably ensue! Few wants could have been expressed or supplied, and few commodities ordered, or feelings exchanged. No kind of news could have been circulated; no sermons or lectures delivered; no books or papers printed; or conversations of any kind held among mankind! Except by means of natural language, no intercommunion of man with man could ever have taken place. Thus most of our powers must have been smothered for want of stimulus to action, and man's condition rendered most lonesome, helpless, and wretched! But thanks to infinite Wisdom and Goodness for this communicating capability! He has endowed man both with organs of speech and this primary mental Faculty of Expression, and thus enabled him to devise various languages and forms of expression for the inter-communication of his wants, feelings, views, knowledge, sentiments, everything imaginable. On its wings he can fly from pole to pole, and talk across continents and oceans, transfuse his own thoughts and feelings, good and bad, into the minds of his fellow-men, and thereby rouse their passions, command their wills, and incalculably enhance his own and their advancement and happiness. The telegraph is but a mode of talking.

THE USES thus subserved at least equal those conferred by any other power. Words, written and spoken, not only promote all other human interests, but are really indispensable thereto. How would man live without Appetite, Self-defence, Mechanism, Time, &c.? Yet could he live any better without some means of communication?

EXPRESSION seems to me to cover its entire ground, and express its true function and intent, far better than Language.

THE COUNTENANCE, however, furnishes by far its most perfect means of communication. In both the amount of mental action expressed, and in conveying its minutest shadings and phases, it as far surpasses words as sunlight starlight. Fine-grained persons can be read through and through by this means, because they communicate their utmost shadings of thought and emotion more completely by facial expression than by any other. I think natural and facial language the chief language of angels.²¹⁶

AUTHORSHIP requires more intellect than Expression, because words can be inserted subsequently, whenever requisite to complete the sense; but speakers are obliged to express themselves rapidly and spontaneously, and thus require a superabundance of words always at command, from which to make ready selections. Even verbosity, unless too excessive, is better than barrenness, because redundancy is rarely noticed, while hesitancy breaks the chain, and weakens the impression.

RAPID SPEAKING, however, by no means indicates large Expression; because an excitable Temperament thinks rapidly and feels intensely, and therefore speaks fast, even when Expression is only moderate, yet uses every-day expressions, and, unexcited, hesitates, often recasts sentences, and is anything but fluent and easy of delivery; whereas, this organ large speaks fluently without excitement, and never hesitates in saying just what it wishes.

265. — DESCRIPTION, UTILITY, CULTIVATION, &c., OF EXPRESSION.

LARGE — Are exceedingly expressive in all said and done; have a most expressive countenance, eye, and manner in everything; an emphatic way of saying and doing everything, and thoroughly impress the various mental operations on the minds

of others; use *the very* words required by the occasion; are intuitively grammatical, even without study, and say oratorically whatever is said at all; commit to memory by reading or hearing once or twice; learn languages with remarkable facility; are both fluent and copious, even redundant and verbose: with large or very large Imitation, add perfect action, natural language, and gesticulation to perfect verbal selection; with large Beauty, are elegant and eloquent; and with large Observation, Eventuality, Comparison, and organic quality added, possess natural speaking talents of the highest order; say things in the very best way; choose words almost as by inspiration, and evince the highest order of communicative talent; have freedom, copiousness, and power of expression; with large Love, use tender, winning, persuasive words; with large Force and Destruction, severe and cutting expressions; with large moral faculties, words expressive of moral sentiments; with large Acquisition, describe in glowing colors what is for sale; with large Beauty, employ richness and beauty of expression, and love poetry and oratory exceedingly; with large Imitation, express thoughts and emotions by gesticulation; with activity great, and Secretion small, show in looks the thoughts and feelings passing in the mind; with large reflective Faculties, evince thought and depth in the countenance; with large Comparison, use just the words which convey the meaning intended; with large Beauty, Observation, Eventuality, Comparison, and the mental Temperament, can make an excellent editor or newspaper writer; and with large Causality added, a philosophical writer, &c.

FULL—Say well what is said at all, yet are not garrulous; with small Secretion, speak without qualification, and also distinctly and pointedly; express the manifestations of the larger Faculties with much force, yet not of the smaller ones; with large Secretion and Caution, do not always speak to the purpose, and make ideas fully understood, but use rather non-committal expressions; with large Comparison, Intuition, Causality, Beauty, activity, organic quality, and power, have first-rate writing talents, and can speak well, yet large Secretion impairs speaking and writing talents by rendering them non-committal.

AVERAGE—Have fair communicating talents, yet not extra; with activity great, and Secretion small, speak right out; are

rapid, talk much, and to the purpose, yet are not eloquent, and use commonplace words and expressions; with large Observation, Eventuality, and Comparison, and moderate Secretion, can make an excellent writer by practice; use none too many words, but they are clear, and to the point; with large Causality, have more thought than language; with moderate Observation and Eventuality, find it difficult to say just what is desired, and are not fully and easily understood.

MODERATE — Are not particularly expressive in words, actions, or countenance, nor ready in communicating ideas and sentiments: with large Beauty, Eventuality, Comparison, activity, and power, may succeed well as a writer, yet not as a speaker; talk fast and much, but use only common language; with large Causality and moderate Eventuality, have abundance of thoughts, but find it quite difficult to cast them into sentences, or bring in the right adjectives and phrases at the right time; are good in matter, yet poor in delivery; commit to memory with difficulty, and fail to make ideas and feelings fully understood, and to excite like organs in others; with large Eventuality, Locality, Form, and Comparison, may be fair as a linguist, and learn to read foreign languages, yet learn to speak them with difficulty, and are barren in expression, however rich in matter.

SMALL — Have poor lingual and communicative talents; hesitate for words; speak with extreme difficulty and very awkwardly; can hardly remember or use words at all, and should cultivate this Faculty by talking and writing much.

THIS FACULTY learns to *talk* foreign languages, but learning to read or spell languages, our mother tongue included, requires Form, to remember the shapes of letters and words, and their various conjugations and terminations; large Eventuality, to recollect their rules and conditions; large Comparison, to distinguish between the various meanings of words; and thus of other Faculties, with sufficient Expression only to direct them on languages, and comprehend their spirit. Therefore a far lower order of it will suffice to render one a good linguist than a fluent speaker. Hence excellent linguists often have it small, and accordingly are poor speakers. Even Burritt himself has this organ good, yet nothing extra, and is not a great speaker, nor any way remarkable for fluency, but speaks measuredly and

almost slowly, and, taken out of his beaten track of committed lectures, is only fair.

266. — ELOQUENCE, LANGUAGES, &C.

CONVERSATIONAL EXCELLENCE, next to intellectual and moral, constitutes the highest order of human attainment and endowment. MENTALITY is by far the most exalted department of Nature, and this Faculty its main medium of manifestation; therefore to improve communicating powers is to perfect the mind itself, crown our natures with their second highest ornament, and incalculably promote personal and general enjoyment. Chesterfield has well said that good conversational powers are an open and universal letter of recommendation. They charm all who listen; embody the most perfect of all means of communicating instruction, ideas, feelings, and all the operations of mind; persuade at his pleasure who wields them, and thus become the highest instrumentality of success; and give their possessor command over MIND. To be able to mould plastic clay, or fashion the marble block into the external image of humanity, is indeed a great and glorious gift; but to MODEL CHARACTER, CONTROL OPINION, and DETERMINE CONDUCT, is the highest power bestowed on mortals, because instrumental of the most happiness.¹⁵ What would our every reader give — what NOT give — for conversational and fascinating accomplishments and powers? Another still higher order of attainment is the unbounded power wielded by

ELOQUENCE, man's second glorious gift. Behold Demosthenes rousing electrified throngs, till they seize their arms, and wildly exclaim, "Let us march against Philip. Let us conquer or DIE." Behold a Cicero wielding the most powerful sceptre on earth by his flowing and effective eloquence. Behold a Burke speaking not mainly to the few thousands crowded around him, but to a mighty empire, to the entire civilized world, for ages after his voice was hushed in death! Behold a Patrick Henry, enchanting and rousing his fellow-citizens at home, and his compatriots in Congress, till he prefaces and ushers in that immortal declaration of HUMAN FREEDOM which is now undermining every throne and dynasty on earth, and will soon enfranchise the race itself, and give to oppressed humanity forever the glorious birthright of

LIBERTY, civil, ecclesiastical, and intellectual. Behold O'Connell, thronged wherever he opened his mouth. A NATION at his feet hung on his words! He said, "Forbear," and they forbore, though lashed up to desperation and frenzy by oppression and starvation. If he had said, "Fight," nations would have rushed to mortal combat. Give me ELOQUENCE, in the forum or on paper, and I will mould MIND, fashion MOTIVE, and develop SOUL; will wean erring humanity from its fooleries and its errors; make sinful, miserable man virtuous and happy; reform and adorn my country till it becomes the model nation of the world; and even make earth another Eden! Only give me ELOQUENCE, I care not what you take; take this boon, I care little for what is left.

ALL MANKIND ARE NATURAL ORATORS. Hear that child relate some interesting incident, or that little girl tell some exciting event. She does not stammer for want of words, nor for just the ones required. Every sentence is well conceived; every emphasis is exactly right; every inflection is perfect, and most expressive and delightful; every word is well chosen, and the whole flows on so charmingly and expressively that you would think she had been taught by angels. GOD has taught her. All children are eloquent BY NATURE, and eloquence itself. They speak spontaneously, and therefore effectively. Hark! Hear you that deep, melodious voice in yonder woody glen? That son of the forest, one of Nature's noblemen, is pouring forth in the red man's council such strains of eloquence as are rarely heard in civilized life. Indian interpreters, accustomed to hear both speak, all concur in pronouncing the latter the more eloquent, more condensed, elegant, and effective. Read Logan's speech, and Blackhawk's narrative. Tell your story half as well. But *why* this Indian superiority? Shall even untutored SAVAGES excel those who have been at school and college ever since they left the cradle? Shall childhood eclipse maturity? We were ordained to grow better as we grow older, not to deteriorate.¹¹⁶ Shall that improvement of brain and mind consequent on physical maturity, aided by years of daily practice, only *impair* delivery? Yet such is the actual fact. Of this all children, compared with adults, or with themselves when grown, are living samples. This Faculty was given us to express what we think and feel, and ALL; not to deface and botch the inimitable beauties of mentality by

its bungling expression of them. The rich ideas and exquisite feelings of ninety-nine hundredths of mankind lose nine tenths of their force by being thus choked, stifled, and marred in utterance. Where every word might charm, and every sentence move, the former often grate, and the latter disgust. How many readers are conscious of their utter inability to convey in words one tenth of what they feel and know! How many are mortified daily at their clumsy, halting delivery, whom Nature capacitated for splendid speakers, or at least endowed with a high order of conversational gifts and graces! How exceedingly defective men are in their manner of expressing themselves! Yet this is not Nature's fault, but our own. After she has done thus much to render us so eloquent in childhood, does she wrest from us so important a gift just as we begin to taste its sweets, even though its value increases with age? Does she ever trifle thus with man? Never; but our imperfect, paralyzing, perverted mis-"education" literally stifles natural eloquence in the bud of youth. This glorious sun goes down before it fully rises. Nearly everything connected with existing educational systems tends to CRIPPLE, instead of developing delivery. It is distorted, instead of being perfected; and our miserably bungling, limping, club-footed style of conversation and speaking is the sad consequence.

DELIVERY CAN BE IMPROVED, and to an astonishing extent. Undoubtedly every reader, by duly cultivating his natural gifts and graces, might surpass our best speakers, in both conversation and delivery. Certainly all can incalculably improve both. Would you, then, who hesitate in conversation, and stammer in speaking, perhaps cannot speak at all in public; who have good ideas and glowing feelings which you would give fortunes to be able to convey, but either utterly fail, or else fall so far below your conceptions as to spoil even the attempt, learn the CAUSE of this decline? Look for it in your having been compelled to sit on a bench and say A, and to smart under the lash or ferule every time you whispered. Or would you learn the remedy? TALK. Drive out your ideas; well, if you can, and as well as possible, but well or ill, give them UTTERANCE. Join debating and speaking societies. Seek and make opportunities for engaging in conversation and public speaking. Do not quake to appear before an audience; they are only men. Let us have vastly more public

speaking on temperance, science, religion, and all moral and intellectual subjects. Religious meetings afford excellent facilities, where the pastor tries to bring forward his lambs, for improving this gift, and at the same time doing good. Bear in mind that its exercise is its restoration, just as its inaction was its decline. USE WORDS, oral and written, in public and private. This will discipline it, and augment its power.

CONVERSATION furnishes the very best possible opportunity for cultivating and improving style; because, while others are talking, we can both listen and arrange our own ideas and language. Those who cannot be really eloquent in conversation cannot be eloquent anywhere. It lacks neither interest nor excitement, because both are brought to their highest pitch of healthy action. There is also something in the very nature of this conversational interchange of ideas and feelings; in answering, replying, and answering again, every way calculated to elicit mental action and beauty of sentiment, and also to facilitate this eloquent, charming, forcible expression. In public speaking, the sentences must be cast too rapidly to allow that strength of thought, that arrangement of ideas and sentences, or that beauty of diction, amply provided in conversation. But these facilities are too little improved. Neighbors spend far too little time in this interchange of ideas and sentiments. Man was made to talk much. One boon my soul desires — frequent and protracted *talks* with those choice spirits occasionally met in our journey through life. Few know how to converse, or attempt to improve. Most conversation is tedious. Few talk ideas, and fewer still take pains to express them well. But when we do meet kindred souls, or those highly gifted in conversation, hours become minutes, so much more do we enjoy and live in their society than in ordinary life. O for a lifetime, an ETERNITY of such enchanting converse!

ONE conversational excellence should be generally adopted. Each should speak longer; from one to five minutes at a time, or till he has fully presented his particular idea in its various bearings. To do this effectually, a score or two of sentences, or even a young speech, may sometimes be required; but let the others wait, and listen without interrupting till their turn arrives, and then pursue a similar course. This will take time, but GIVE time; for how can it be spent more pleasantly or profitably?

LET us then cultivate those conversational Faculties thus bestowed upon us by our bountiful Creator. Their assiduous improvement will enable us to diminish existing blemishes, and add many strokes of beauty and impressiveness, perhaps enable us literally to charm mankind by the perfection of our diction and composition, and contribute more to the happiness of ourselves and fellow-men than if we possessed fortunes.

CORRESPONDENCE also furnishes another excellent arena for the exercise and consequent improvement of this Faculty, and indeed of the whole mind. It is naturally and eminently calculated to perfect our style of expression, and should be universally practised. If you lack time, *take it*. Authorship should not be confined, as now, to the few. All should put thoughts on paper, and apply to themselves this stimulus to communicative progression. The time will come when that mass of intellect and exalted sentiment now pent up in "the million" will be developed, and men traffic in the productions of mind as much more than in lands and goods, as they now do in the latter more than in the former. Ideas will yet become the great staple of human commerce. The press is to be augmented a hundred thousand fold. Communicating and receiving ideas are yet to engross most of human time. "Knowledge shall run to and fro, and be increased" illimitably. In short, the exhaustless beauties and powers of the human mind are to be developed beyond our utmost stretch of imagination, by this verbal and written intercommunication of ideas and sentiments. For this mainly was man created. All hail cheap books, cheap postage, phonography, every increased facility for the MANIFESTATION OF MIND, and let all take and make every suitable opportunity to EXPRESS THEIR IDEAS, and also

USE GOOD LANGUAGE. To communicate *well* is more important than quantity. Speaking ungrammatically and bunglingly is even injurious, because it confirms a bad practice. It is ever more essential to express ourselves elegantly and forcibly than to rattle away without sense or beauty. Whenever a few appropriate words express more than many inappropriate, they accomplish more and are preferable. In general, the fewer words the better, provided they fully convey the precise meaning intended. More are useless, clogging lumber.

PERSPICUITY is the first and highest communicating excellence. You speak and write solely to be understood; and the more you enable the listener and reader fully to comprehend your precise ideas, the more perfect your communicating powers. Seek perspicuity first, so that your entire mental operation may be so fully and clearly conveyed to listeners and readers, that they can neither mistake nor doubt. Be distinct and specific.

IMPRESSIVENESS is next. You speak or write solely to impress your own mental operations on other minds. Then, so express them as to render the transfer entire and complete. In attaining both these ends, more depends on the general framework of sentences than their wording. Especially do we require to begin and end right, as well as to insert their various adjunctive clauses, each in its own place. There is a right and wrong arrangement for every division, idea, sentence, clause, and word, of every discourse and work, as much as for hand, eye, and every part of the body — one which helps deepen and perfect the general and specific impression. The difference in the effect produced by transposing clauses and words is indeed great, as all can see by placing them differently in the same sentence. In fact, when walking or at work, so that the mind can be employed in self-improvement, to frame ideas into sentences, and then alter and modify in order to perfect them, is a most excellent mental discipline, as well as promoter of correct and forcible conversation and delivery.

ORNAMENT should follow perspicuity. Nature adorns all her works, and is indeed one grand galaxy of beauty.²³¹ Beautiful, charming, the flower-spangled lawn, the human form and face, all creation; yet what is as perfectly enchanting as elevated sentiments and sublime ideas elegantly expressed? You may gaze in ecstasy on a beautiful face, that highest order of beauty of form; but let me behold beauty of SOUL as manifested by words. What else imbodyes more of the truly Divine? Has Nature provided so amply for adorning her physical works, and not for still further ornamenting her highest work of all? Has she stamped so high a grade of beauty on the human form and face, and one far higher on the mind, and yet neglected to adorn its principal avenue of manifestation? Such ornament has been created. We speak properly of "flowery language" and an "ornate style." Let others paint the external man, me the internal. Give me elegance of style, I care nought for gaudy attire or splendid equipage. And yet how

many a try-to-be beauty spends hours daily in preparing and putting on these outward adornings or rather deformities, perfectly ridiculous in themselves, and tolerated only because fashionable, without making any effort to beautify her mind, or polish its highest order of manifestation! What is more supremely ridiculous than a lady, fashionably attired from head to foot, and assuming all the airs of would-be attractiveness, yet whose language is insipid and ungrammatical? The eagle and turtle harnessed up together would make a better match. Crowns on simpletons would be less incongruous. Rather elegance of expression with rags, than showy attire with awkwardness of expression. Strange that standards thus utterly absurd should be allowed to govern rational beings! For rational men to rate fashionable habiliments above this second highest mental accomplishment, shows how low in the scale of being man yet remains. Mere *style* of dress, not its comfort or utility, but its particular *fashion*—really, to what does it amount? But to esteem conversational excellence so much below what is so utterly insignificant, shows how lightly this exalted accomplishment is esteemed! Let such glitter on; but let all who value MIND take unwearied pains to improve its verbal manifestation. Let us develop by culture that exhaustless beauty of style conferred on all by Nature, and on some so lavishly. If men would but take half the pains to ornament their conversation they expend on dress, every sentence would be charming, and every book enchanting, and all interchange of ideas a perpetual feast. Let us all strive to beautify and perfect every sentence we utter and write. Still, more ornament than sense is disgusting. We require the sweet *and* useful, but the latter governing.

NATURALNESS or simplicity is another important requisite in a good style. Whatever is natural is therefore beautiful, and also perfect. Of nothing is this more true than of the manner of expressing ideas. A strained, labored, far-fetched, artificial, involved style is proportionally imperfect. Chalmers' style is over-wrought, swollen, difficult of comprehension, and to me far less interesting and impressive than one more natural and less artificial. Our words should be placed in nearly or quite the same order on paper as in speech. One great fault of modern style is its departure from this oral and natural standard. Let simplicity characterize all you say and write, as well as your style of expression. Whoever is natural in this respect is therefore elegant.

STUDYING THE DEAD LANGUAGES aids grammatical accuracy, but bears no comparison with talking and speaking as a means of improving Expression. As well send a child to the equator for ice, or a youth to the poles for flowers, as send the former to "sit on a bench and say A," or the latter to college to study dead languages, in order to become good speakers. Modern education prevents, instead of promotes, good delivery, because it restrains conversation. But the injury it inflicts on health is its greatest evil. Out of fourteen graduates who took the highest honors of their respective classes, in seven successive years, at one of our best colleges, *twelve* died within *two years* after having graduated! And if this average destruction of health occurs in the best scholars, its proportional enfeebling occurs in the different grades of scholarship. That modern education, from the bench-sitting "A" to the collegiate "A. M.," is constitutionally injurious to health, is both general fact and physiological truth. By thus enervating the brain, it impairs both brain and mind in general,³³ and the speaking capabilities in particular. Who but can converse, write, and speak vastly more elegantly, fluently, and forcibly when well than unwell? The reason is, that most intimate relation sustained by the brain in general, and its base in particular, to the body. Hence, whatever impairs the health, as the study of languages generally does, thereby actually weakens Expression, instead of strengthening it. This impairing health by thumbing lexicons in order to graduate, and then speaking from MANUSCRIPT — great speaking (?) this — will render a naturally good speaker as dull and prosy as most graduates now are, and as monotonous in tone and mechanical in gesticulation as though mind and body had been confined all this time in a strait-jacket. Compare Washingtonian eloquence and persuasive power with the college-best whittled down to a point. Contrast stump speakers with D. D.'s, and Methodist preachers with Presbyterian; which are the most effective speakers? Not the Greek and Latin student, but those who begin and practise SPEAKING from first to last. Few sparks of eloquence escape collegiates except what congeal in their pens. WRITTEN discourses, however labored, seldom come from the soul, or reach feeling or conduct. True eloquence rarely grows among Latin rubbish or Grecian lore, but must be *felt*. It takes *soul* to speak to the purpose, and soul *will* speak, unless hampered by antiquity. Gough surpasses Everett. The Pough-keepsie blacksmith and rustic farmer often out-speak, out-argue a

score of the very best lawyers, doctors, and ministers put together ! Test this statement by FACT, and learn the great PRACTICAL lesson it teaches.

LEARNING LANGUAGES ORALLY is eminently useful. Books should be used as auxiliaries only. Languages taught by TALKING them will be learned thoroughly in one tenth the time now wasted, and also be retained ; whereas most graduates, after having spent several of their best years in half acquiring them, so far forget them after leaving college, that many, probably most of them, cannot read an ordinary sentence in Greek, Latin, or Hebrew, off-hand, without a lexicon. Yet pupils of ordinary capacity, by living only a few months among the French, Spanish, Germans, or even Indians, or wherever the conversation is in a foreign language, catch it by instinct, so as both to talk and remember it, even without teachers ; much more with them, and when they study as well as hear. To teach and learn all languages orally mainly, is the only method in harmony with the laws of mind. Yet the best time to acquire languages is in childhood ; the parent, nurse, or teacher talking and explaining them by word of mouth. They are thus learned easily, and never forgotten.

THE STUDY OF GRAMMAR is generally supposed to impart correctness of expression, and render some service in conversation and style, just as mechanical arithmetic aids Computation, and notes, music, yet like them should rank far below practice. We do not stop to parse as we talk. What writer or speaker squares his expressions by the rules of syntax — only a summary of the genius of language ? Studying this spirit of language *practically*, is the great teacher of grammatical accuracy. There is an inherent right and wrong mode of expression to every sentence, and man has a correct ear for language as much as for music. To speak and write correctly is as natural as to calculate figures right, provided bad conversational habits have not been formed beforehand. Those who will notice what strikes them as right and wrong in modes of expression, will soon catch the spirit of language, just as we catch tunes by hearing them sung. After this, grammar, or the science of language, — for all languages are scientific as much as mathematics, — may be advantageously studied. Still, there yet remains some great and radical defect in most or all existing systems and methods of teaching grammar. It should be taught *orally*, in conversational explanations, mainly, and less from books. That no

popular grammar imbodyes the true genius and spirit of language, is rendered perfectly apparent in James Brown's "Appeal," a perusal of which will shed much light on this subject. Murray's Grammar is most bungling and imperfect. Kirkham's is a vast improvement, yet by no means perfect. Natural grammar is based on the constitutional functions of all the intellectual Faculties, and of course involves position among other things, a principle incorporated into no grammar extant. On this point H. J. N. very appropriately observes, —

"THE VERB, if placed by itself, must command; if combined with a nominative, without accompaniment, must declare; if placed BEFORE the nominative, must question; if it end in *s* or *th*, must declare or question in present time, and must have a nominative of the third person and singular number; if it form its personal variation in *st*, the nominative must be a pronoun of the second person singular. The noun in English has five cases, four of which must be determined by the POSITION of the noun. All words placed between the article and noun must be adjectives; also all words placed between the possessive case and the name possessed, must be adjectives, and no other part of speech can be placed there."

TWENTY YEARS will see a great and much-needed improvement in this branch of science. Our best grammatical instructor is observation of both the accuracies and the inaccuracies of expression.

EMPHASIS, ARTICULATION, INTONATION, &c., are more expressive than words. The same words, placed in the same order, can be so uttered as to signify precisely opposite meanings. Thus, "gone to Boston," can be so spoken as to declare that the person before mentioned has gone, to ask if he has gone, and, uttered ironically, to deny his having gone. Or we can so utter given words and sentences as to enhance their meaning from a slight grade of emphasis along up to a most powerful condensation and augmentation of meaning, just by different intonations, inflections, and degrees of emphasis. The Author is not attempting to give a work on elocution, though one should be written phrenologically, by analyzing the mental Faculties, and showing what intonations express each one of them, but calls attention to those items worthy of special attention.

1. EMPHASIS. Language is so formed that many of the words are unimportant, and require to be slid along over lightly, while others require to be uttered with the whole stress and stretch of the vocal apparatus, in order to convey their entire meaning. Thus *of*, *the*, *is*, *are*, and the like, are usually unemphatic, though sometimes

THE emphatic words of sentences. When not emphatic, utter them distinctly, but lightly, so as to allow the words which *are* emphatic to stand out by contrast in more bold relief. Those who emphasize most of their words, emphasize none, because this perpetual tension of the vocal apparatus will not allow that limber play so indispensable to correct emphasis. Such, too, generally induce bronchial difficulties, by this perpetual straining. I speak not of loudness, but of hitting every word a hard vocal rap as it is uttered. But relieving the voice by uttering the less important words lightly, allows you to come down with MIGHTY emphasis where great power of stress is required, and also to talk with such perfect ease as not to strain or irritate the vocal apparatus. In order to give these emphatic words their full force, stop just before, and just after, uttering them, as if a comma, semicolon, or colon, according to the amount of stress required, were placed before and after. This will both relieve the vocal apparatus, so that it can come down with power upon whatever requires power, and also prepares the hearer's mind for its reception; and in general, the longer this pause, the more emphatic; though it can be prolonged so far as completely to break the connection, and therefore sense. To still further augment this power of emphasis, put your stress mainly on the emphatic SYLLABLES of the emphatic words. Thus, in order to utter *tremendous* with tremendous force, do not emphasize every syllable, as TRE-MEN-DOUS, but only the MEN, as tre-MEN-dous — not OVERWHELMING, but over-WHELM-ing; and thus of all other words. Yet utter these unemphatic words dis-TINCT-ly, that is, form them fully, though lightly. A clearness of enunciation indicates clear thoughts and intense feelings; whereas those who only half form or articulate their words, only half feel and think, or are poorly organized. But those whose articulation is distinct have point and meaning in what they utter, because their minds are pointed.

INFLECTION imbodyes and expresses even still more character and meaning than emphasis. TONES speak louder than words. The way we END our syllables and words, conveys vastly more meaning than even the words themselves. Indeed, they imbody the great secret of effective conversation and speaking. All that is thrilling, pathetic, and soul-stirring, is conveyed by these tones. They are to vocal expression what nerves are to the body — are its “thunder and lightning.” Their power is incalculable. No

means of writing them has yet been devised, yet ultimately will be; and hence the superiority of the voice over the pen, of extempore sermons over all written productions, however well composed.

THE FIDELITY AND MINUTENESS with which these tones and inflections correspond with the thoughts and feelings are perfectly astonishing. They neither fail nor omit to express perfectly every mental operation. Thus, listening through a wall to conversation in an adjoining room, without hearing one word spoken, tells whether it is ordinary or extraordinary; and if the latter, what emotions each speaker expresses; whether they have ever loved, or been disappointed, or are scolds, or amiable, even though they may be talking on nothing calculated to elicit these intonations; whether they are refined or gross; sensual or pure-minded; dull of comprehension or quick of perception and mental action; tame or energetic; talented or half-witted; religious or irreligious; yet not whether they belong to church: and thus of all other important characteristics. Nor can any money value this power, and the information and pleasure it affords. This is done thus.

SOME FACULTIES SHORTEN, others lengthen, these tones. Force cuts them off short, while the affections lengthen them. Whoever has been thoroughly in love, continues these intonations or endings of words, very properly called "vanishes" of the voice. Veneration also prolongs and solemnizes them. Mirth shortens, but in a very different manner from Force. Causality imparts weight or body to them. Beauty polishes and elevates. Every Faculty is faithfully reported in these vocal enunciations,⁶⁰ which the ear catches and interprets with wonderful precision and fidelity. Still, this is not the place to any more than name this subject, and the importance of studying and perfecting intonation. To perfect your own tones and inflections, notice those of children when animated in conversation, for they are admirable, because not yet warped by art. Woman, also, especially when any way excited, will give you better PRACTICAL lessons on elocution than you can obtain anywhere else. Especially will these intonations of superior women happily married be inimitably touching, sweet, tender, and charming. Above all, let your intonation be NATURAL. Never utter your words affectedly, as if trying to put on anything double-extra.

COMMITTING TO MEMORY is essentially improving. Attree, the

unrivalled reporter of the Herald, does not write short hand, yet commits long speeches, aided only by running notes, almost verbatim, nearly committing them to memory as they are delivered. He says the more he practises the better he reports, and that this Faculty — truly extraordinary in his head and character — becomes rusty unless *habitually exercised*. Children commit to memory with extraordinary facility, and might improve as they grow older, if this power were increased by culture. They all love to commit verses and other things, and should be encouraged to commence long before they can read, and continue through life. Yet teaching children, parrot-like, to commit words merely, supposing that therefore they understand what they learn, is an egregious error. They should exercise their other Faculties in connection with memorizing.

ALLOWING CHILDREN TO TALK is the way to render them eloquent when matured. All children are incessant talkers. They are created thus in order to fulfil man's communicative destiny. Their tongues are always running, whether or not they have anything to say. Not so with adults. WHY this diminution of so essential a gift? "Stop that whispering, or I'll cuff your ears," says a schoolmaster to yonder whispering scholars. If, prompted by the irresistible workings of this Faculty, spontaneously active, they repeat the offence, they are chastised. As well punish for breathing, or being hungry, because these are equally spontaneous; and to punish on account of either is equally unjust and cruel. In bestowing this Faculty, the Author of their being created a DEMAND, and bestowed a RIGHT to use it, and even made talking a paramount DUTY, as well as a pleasure. Who, then, shall dare to suppress its exercise, or punish for what God requires? Those who do are accountable to God for annulling his works, and to those restrained for curtailing so great a pleasure, enfeebling so important a Faculty, and thwarting so indispensable an end of their being.

"HOW CAN we teach when the entire school is deafening us with their perpetual clatter?" Send them home to be taught by their mothers. But mothers exclaim, "How can we endure their everlasting rattling and hallooing? We send them to school to get RID of them!" Then send them to their graves, if so very troublesome. You are bound as parents to seek THEIR GOOD, not your own ease. Expressing ideas constitutionally kindles their flow,

and greatly augments mental action ; both of which, preventing their talking, necessarily enfeeble. Hence to interdict their talking prevents the exercise and consequent discipline of their minds. "But must we be forever harassed by their incessant clamor? Have we not a perfect *right* to still their tongues?" As good a right as to stop their breath, but no better. Who has given you any right to cramp and retard their INTELLECTUALITY, which you necessarily do by making them hold their tongues? There are of course times when, if duly disciplined, they will gladly listen instead of talking, because interested in what is said, or from filial love; yet this differs materially from compelling them to hold their tongues perpetually in school and out. But keeping them much out of doors will obviate all difficulty, besides improving their health.

USING GOOD LANGUAGE BEFORE THEM TEACHES THEM TO USE IT. They are imitative creatures, and learn to talk in exact accordance with the examples set them. The same principle by which they learn to talk English, Spanish, Arabic, or Hindoo, &c., accordingly as those do of whom they learn to talk, extends to all the ramifications of talking, and makes them copy all the brogues, peculiarities, idioms, phrases, and forms of speech used by the former. Hence an acute observer can tell from the idioms and enunciations of persons, not only whether they are Yankees or Southerners, but in what state "down east," or "south," or "out west," they were brought up. This same law will render children gross or elegant, forcible or feeble, correct or ungrammatical, in conversation, according as those converse by hearing and patterning after whom they learn to talk. To teach them to talk correctly, talk correctly to and before them. Express yourself elegantly, and they will learn to couch their expressions in beautiful language; or be bungling and ungrammatical, and they will closely copy the example set them. By as much, therefore, as it is of paramount importance that they learn to express themselves beautifully and forcibly, it is important to talk to them and before them in good English and in as elevated and refined a style as possible. This is equally true of style in writing; especially books, for children. Indeed, we all copy more or less the style of favorite authors; so that writers should use good language as a means of improving the general tone of conversation and speaking. Speakers, also, should clothe their thoughts in grammatical and elevated lan-

guage, because every sentence goes to mould the elocution of the public.

BABY TALK consists in saying foolish things ungrammatically; and the more outrageously it literally murders good English, the more babified. If infants require milk to feed their bodies, they surely do not require silliness to nourish their minds. All you say makes its impression on their forming minds. Even before they understand your words, they feel your intonations, which are flat and pointless when your conversation is foolish, and thus tend to render their minds insipid. But talking ideas even to infants will awaken their ideas, at least through the medium of accompanying intonations. Children of two years old understand, or are capable of understanding, most that is said to them. Hence talking sensibly to them quickens their intellects, and clothing good ideas in an elegant, elevated style, besides imperceptibly exciting the sentiment of the beautiful and polished in them, will form in them a classic style from the first, which will go on to improve through life. The conversation of parents and adults to and before children might and should be a perpetual feast, intellectually and morally, to their unfolding minds; and if so, children too would both speak correctly, and charm with a beautiful and expressive style, grow up with splendid and fascinating conversational powers, and perhaps become natural orators, charming and instructing all who hear them speak or talk through life! Talk ideas to children or else say nothing, and clothe them in good language, and they will faithfully copy both.

WOMAN'S TALKATIVENESS is frequently cast in her teeth as a reproach. That, as often used, it becomes such, is too true; yet her constitutional flippancy is one of the chief beauties and excellences of her character. Children and adults are constituted to be instructed by conversation more than from books. You can talk more into a child in one hour than he would learn from books in a week. "Woman's loquacious tongue" was given her in part to enable and dispose her to instruct children by conversation; her large Language and Parental Love combined, making her love to talk to and with them. Nature thereby fits and almost compels her to become their instructress. Mothers are the only constitutional teachers of their children. Unless children are educated at home, they never can be educated. Schools rarely, if ever, form either their intellectual or moral characters. Mothers must form BOTH.

CHAPTER. III.

THE REFLECTIVE FACULTIES.

267.—REASON : ITS DEFINITION, LOCATION, ANALYSIS, AND SUPREMACY.

PHILOSOPHY ; SENSE ; ORIGINALITY ; JUDGMENT ; PENETRATION ;
GENERALIZATION ; FORETHOUGHT ; PROFUNDITY ; ETC.

THESE FACULTIES give a philosophizing, penetrating, investigating, originating cast of mind ; ascertain causes and abstract relations ; contrive ; invent ; originate ideas, etc.

LARGE.—Possess extraordinary depth of reason and strength of understanding ; and with large percepts, extraordinary talents, and manifest them to good advantage ; with percepts small, have great strength of mind, yet a poor mode of expressing it ; are not appreciated, lack intellectual balance, and are more plausible than reliable, and are too deep to be clear ; possess the higher capabilities of intellect ; reason clearly and strongly on whatever data is furnished by the other Faculties ; have soundness of understanding, depth of intellect, and that weight which carries conviction, and contributes largely to success in everything ; with percepts small, possess more power of mind than can be manifested, and fail to be appreciated and understood, because more theoretical than practical.

FULL.—Possess fair reflective powers, and reason well from the data furnished by the other Faculties ; and with Activity great, have a fair flow of ideas and good general thoughts.

AVERAGE.—Reason fairly on subjects fully understood, yet are not remarkable for depth or clearness of idea ; with cultivation, will manifest considerable reasoning power ; without it, only ordinary.

MODERATE.—Are rather deficient in power of mind ; but with large percepts, evince less deficiency of reason than is possessed.

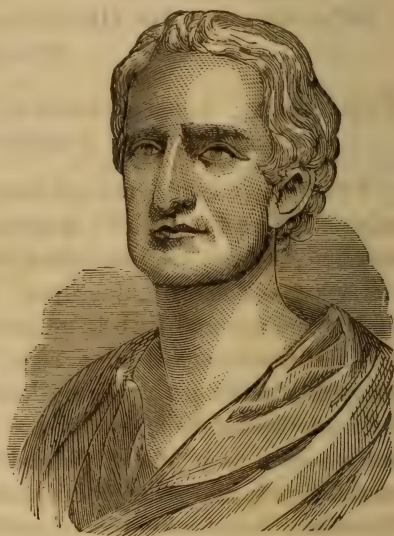
SMALL.—Have inferior reasoning capabilities; and are almost destitute of thought, idea, and sense.

TO CULTIVATE.—Muse, meditate, ponder, reflect on, think, study, and pry into the deep abstract principles and nature of things.

TO RESTRAIN.—Theorize less, and give more time to facts.

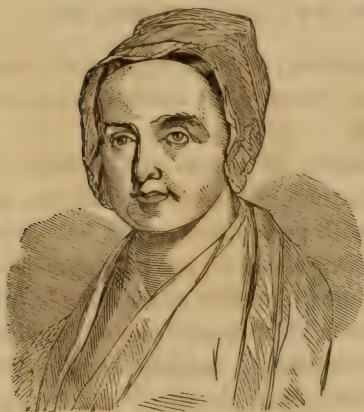
THE SEAT OF HONOR is awarded by Nature to this element. It is located as high up as any, and as far forward. The moral group is equally high up, but farther back, and the percepts are as far forward, yet lower down; while this group is *both* high up *and* far forward. How emphatic, how impressive the lesson thus taught that

REFLECTIVES LARGE.



No. 196.—CÆSAR.

REFLECTIVES VERY LARGE.



No. 195.—LUCRETIA MOTT.

we should place them in our conduct where God has placed them in our heads—*above and before* all else; the guide and engineer of all; the chief justice, or rather supreme court, whose decisions overrule all below, and are final.

WHAT IS TRUTH, is the most momentous question man can ask, and answered by this reasoning element. It indeed needs the percepts as its aids to bring facts and furnish data; to serve as pages, and spies; to prepare its cases and convey its decisions; while it is king over all, and the imperious sovereign before whose august tribunal all else human bows in meek acquiescence. It descends deeper into Nature's hidden mysteries and arcana, and soars higher into the

eternal etherial blue of pure truth, than all the other Faculties. It is to man precisely what the conductor is to the train, the manager and director of all, who orders all what to do, and how to do it; who whips up this laggard Faculty, and reigns in that rampant one; who tells each when it is in the right, and when going astray; who adjudicates and adjusts all, and takes the "short cut" and best road to desired ends. Man owes his chief superiority over brute, civilized man over savage, Caucasian over all the other races, the great men of all times and races over their inferiors, and philosophers over fools, mainly to this Faculty. The superiority of intellect over the feelings, we have already shown;²³⁸ we now speak of the superiority of reasoning intellect over perceptive. Memory is good,²³⁹ but judgment is better. Knowledge is valuable, but philosophy is to it what gold is to silver. Reason is the helm; reach that and you reach the centre of action, the motor-wheel, the main-spring, that grand central shaft from which all power is derived. Impressions made on perceptive intellect are lasting and efficacious, but those made on the hard *sense* of men are immeasurably more so. The former is like a fire made of pine wood, blazing, smoking, crackling, and brilliant; while those made on reason are like a fire of anthracite coal, slow to kindle, and giving off little smoke, or blaze, yet pouring out the penetrating heat, and lasting. The fires of passion burn fiercely, but soon consume their fuel, and often themselves; while seeing is believing and convincing, but leaves only a transitory impression, whereas philosophy impregnates the *fountain* of life, and flavors all the waters which flow therefrom. Give me reason in the morning, sense at noon, and philosophy at night, day by day, and in the morning, noon, and evening of life, and take what else you like. Let me work on the *thought* of mankind—and I care nought who works on their feelings. Let me teach them truth by *reason*, while others teach it through facts. Give me their *understandings*, and I care not who has the remainder; for this will control that. Let me study philosophy, while others study experiments, history, and whatever else they like, and I will not envy them. Let me live ever in accordance with *first principles*, and I will let others live as they list. Let reason guide and govern all my family ties, all my business movements and projects, my tongue and pen, as well as all I do, and am; and when I die, let my reasoning powers be last to lie down in death, and first to rise up in immortal splendor, and sit in the chariot of state *forever more*, making the uttermost possible out of each individual function, and out of existence as one grand whole.

TRANSCENDANTLY IMPORTANT, then, is that analysis and means of cultivating this crowning gift of God to man, we now approach.

XL. CAUSALITY.

268.—ITS DEFINITION, LOCATION, HISTORY, ADAPTATION, ETC.

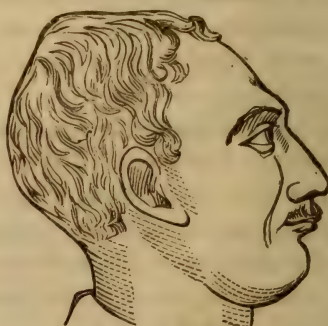
THE THINKER AND PLANNER—Understanding ; perception and application of causation ; reason ; sense ; deduction ; originality ; thought ; forethought ; depth and comprehensiveness of mind ; invention ; creating resources ; reasoning from causes to effects ; profundity ; judgment ; ability to discover first PRINCIPLES and trace out the relations existing between causes and effects ; desire to know the *why and wherefore* of things, and investigate their laws ; ability to reason from causes down to effects, and effects up to causes ; the there-

CAUSALITY LARGE.



No. 197.—DR. GALL.

SMALL.



No. 198.—HEWLETT.

fore and wherefore Faculty ; ability to adapt ways and means to ends ; to plan, contrive, invent, create resources, apply power advantageously, make head save hands, kill two birds with one stone, predict the results of given measures, and the like.

ITS LOCATION is in the upper and lateral portions of the forehead, to which it gives a high, bold, square form in proportion as it is developed. It is especially apparent in old Franklin, Napoleon, Gall, Peters, Niell, Lucretia Mott, Brigham Young—though it is larger in his head than in our engraving of it, as is Love—Herschel, Melanchthon, Cæsar, Rammahun Roy, Webster, Bacon, Swedenborg, Lee, Bismark, Galileo, etc. ; but deficient in Hewlett, all the idiots, all animals and monkeys, all Flatheads, Harriwaukee, and others.

"I have long observed that great philosophers had the anterior superior part of the forehead singularly large and prominent, as in Socrates, Democritus, Cicero, Bacon, Montaigne, Galileo, Leibnitz, Condillac, Diderot, Mendelssohn, etc.

"But they differ; the domain of one kind being the material, of the other, the spiritual. One would know facts, the other conditions; one makes observation his basis, the other, disdaining the material world, rises into the spiritual, and contemplates mind, and investigates general principles. In these heads two cerebral parts are developed, one on each side, adjoining comparative sagacity; forming two segments of a sphere, placed on each side of the forehead, in a horizontal line. During our travels they gave us a cast moulded on the head of Kant, after death. It was with lively pleasure that we saw the extraordinary prominence of these identical parts. Fichte has it still more prominent. The ancients gave Jupiter these same prominences.

"A third manifestation of this Faculty is in 'mother wit.' In proportion as this anterior superior part of the forehead is developed, the human mind is the more expanded, and the man raises himself above brutes and his fellows. This organization discovers the relations of causes and effects; pursues a long series of data; embraces a vast field of observation; discerns the unknown from the known, the constant from the accidental; determines the laws of phenomena; establishes principles; deduces conclusions; ascends from effects to causes, and descends from general laws to facts; enriches nations with new truths, spreading like the beneficent rays of light; breaking the yoke of despotism, and destroying the machinations of imposture. It is *reason* which constitutes the true essence of man, and barrier of separation between man and brute."—*Gall*.

"It seems to me that the special Faculty of the cerebral parts on either side of Comparison examines causes, considers the relations of cause and effect, and prompts men to ask '*Why?*' Its effects are immense; the cultivation of fields, invention of instruments, and whatever man produces by art, depend on this Faculty. It is the fountain of resources; and produces results by applying causes. The laws of causation cannot be too much considered.

"Causality and Comparison combined constitute reason. Without Causality, there can be no argumentative reasoning; without Comparison, no comprehensive views, and no nice distinctions. Observation teaches objects, and Eventuality facts, while Comparison points out their identity, analogy, difference, or harmony, whereas Causality seeks their causes, and all together discern general principles and laws; draw conclusions, inductions, and creations; and constitute a truly philosophic understanding."—*Spurzheim*.

"One in whom it is deficient, in new circumstances, will be helpless and bewildered, where one in whom it is large will show his superiority by the extent of his inventions. A mechanic with Causality small, will be at a stand if his ordinary tools are wanting, or if employed out of his ordinary line; while another having it large, will find a thousand substitutes. It is the fountain of abstract ideas.

"It unhesitatingly infers that God *must exist*, and possess the *attributes* manifested in His works; and therefore that He exists *to us*;

that He is our Creator and Preserver; that all His qualities merit our profoundest admiration, and that therefore He is *to man* the highest and most legitimate object of veneration and worship. This organ is established."—*Combe*.

ITS ADAPTATION is to that great system of cause-and-effect which governs this whole universe, in all its greatness, all its littleness, all intermediates. Causation reigns supreme throughout Nature. This entire order of things is *made up* of antecedents and consequents. Every cause must produce its own specific effects, and no other; and all effects must have only their own legitimate causes. Natural law, and therefore uniformity govern them; so that like causes always produce like effects. Without this cause-and-effect ordinance of Nature, all would be hap-hazard chance. We could effect nothing, rely on nothing, and therefore enjoy nothing; ¹⁹ yet this arrangement brings order out of chaos, enables us to make *sure* of results whenever we apply their causes, and throws immutable *causation* around all the works of the great *First Cause* of all things. Here is a specific department, a fixed fact, an eternal institute of Nature, with which man must somehow be put in relation, else it would be to him what color is to the blind, imperceptible, and inapplicable. He is adapted to all things, and all things are adapted to him.³ He must, therefore, have a cause-and-effect *element* incorporated into that mentality, which constitutes himself.¹⁸ This Faculty thus adapts him to this natural institute. With this arrangement in Nature, and Faculty in man, he can enhance the productiveness of the earth; harness winds and tides into his triumphal car; make steam his servant, and the forked lightning his page; traverse oceans and continents; rush across continents; soar triumphantly through the air; invent tools and machines, and with them multiply the comforts of life; and attain desirable ends innumerable. Behold what his inventive genius has achieved, and is now accomplishing! Yet all this is but the merest beginnings of what it will yet bring to pass! How infinite the good wrought out by the *union* of this attribute in Nature and Faculty in man! Behold its place in the head, and learn therefrom the practical importance of its cultivation.

THE INTELLECTUAL CASTS of Bacon, Franklin, Tyndall, Locke, Herschel, Kant, and kindred minds, furnish practical samples of the powers its ample development confers. Its distinctive office is to discern and apply Causation. All application of ways and means to ends, and all perception of the instrumentalities by which ends are

effected, depend upon it. Its full development, therefore, readily sees by what means given ends can be best accomplished ; suggests expedients ; creates resources ; judges which of the plans proposed is the best ; loves to contrive and lay plans ; requires and is always ready to give its reason ; accomplishes much with limited means ; sees how to apply power most advantageously ; gives ability to reason, infer, invent, contrive, take advantage of circumstances, and predict results : takes comprehensive views of subjects ; gives strength and power of intellect, and solidity and originality of mind ; comes to correct conclusions ; and says and does what makes an impression.

269. — DESCRIPTION, DEFICIENCY, USES, AND CULTURE OF CAUSALITY.

LARGE.—Possess this cause-seeking and applying power to an extraordinary degree ; perceive by intuition those deeper relations of things which escape common minds ; are profound in argument and philosophy, and deep and powerful in reasoning, and have great originality of mind and strength of understanding ; desire to know the *whys and wherefores* of things, and to investigate their laws ; reason clearly and correctly from causes to effects ; have uncommon capabilities of planning, contriving, inventing, creating resources, and making head save hands ; kill two birds with one stone ; predicate results, and arrange things so as to succeed ; put things together well ; with large Force love to argue ; with large percepts, are quick to perceive facts and conditions, and reason powerfully and correctly from them ; with Comparison and Conscience large, reason forcibly on moral truths ; with the selfish Faculties strong, will so adapt ways and means as to serve personal purposes ; with moderate percepts, are theoretical, and excel more in principles and philosophy than facts, and remember laws better than details ; with Comparison and Intuition large, are particularly fond of mental philosophy, and excel therein ; with Observation and Eventuality only moderate, are guided more by reason than experience, by laws than facts, and arrive at conclusions more from reflection than observation ; with large percepts, possess a high order of practical sense and sound judgment ; with large Comparison and moderate Eventuality, remember thoughts, inferences, and subject-matter, but forget items ; with the mental Temperament and Expression moderate, make a much greater impression by action than expressions, by deeds than words, etc.

FULL.—Have good cause seeking and applying talents ; reason,

and adapt ways and means to ends well; with large perceptives, Comparison, activity, and organism, possess excellent reasoning powers, and show them to first-rate advantage; with moderate preceptives and large Secretion, can plan better than reason; with large Acquisition and moderate Construction, lay excellent money-making, but poor mechanical plans, etc.

AVERAGE.—Have only fair sense and judgment; plan and reason well in conjunction with the larger Faculties, but poorly with the smaller; with moderate Acquisition, lay poor money-making plans; but with large Conscience, reason well on moral subjects, especially if Comparison is large, etc.

MODERATE.—Think little; rather lack discernment and causation; perceive causes when presented by other minds, yet do not originate them; with activity and the perceptives large, may do well in ordinary business routine, yet will fail in difficult matters; devise merely temporary expedients, instead of laying long headed plans; lack scope of intellect and range of mind; have few thoughts, and those only common-place; take contracted views of subjects; lack judgment; require to be shown how; lack foresight, head-work, and sagacity; neither appreciate nor perceive the beauties of causation; and are limited in understanding, more and more the smaller this organ.

SMALL.—Are deficient in reasoning and planning power and sense; need perpetual telling and showing; seldom arrange things beforehand, and then poorly; should work under others; lack force of idea and strength of understanding; and are nearly idiotic in reasoning and planning.

DEFICIENCY OF REASON is well nigh as great as this Faculty is useful, and even indispensable, in all the affairs of life. How destitute of wisdom is the great mass of mankind! What mental blindness, almost imbecility, characterizes much that is said and done around us! What stulticity in the choice of objects of pursuit, as well as modes of their prosecution! How few ideas men possess! What paucity of thought! Man may indeed boast of possessing reason; yet, alas, how little he uses this noble, godlike element! This which should stand at the head of his nature, and guide and govern his entire conduct, is thrust, alas, into the back-ground. Its voice is stifled amid the din and roar of passion. Its warnings are unheeded, and its guidance is refused. Behold what dearth of reason, what utter folly characterize the opinions and conduct of most men, both as

individuals and masses, and bemoan the low state of still degraded humanity! Yet console yourself that it improves; that foolish as men now are, they have been worse, and are becoming better. Indeed, till within fifty years, the grand idea, so perfectly apparent throughout all Nature, that causation reigns supreme, has begun to be generally perceived and admitted. Yet even this great truth of the supremacy of causation, palpable as it is, is still practically denied in the matter of health and sickness, which many ascribe to Providence, instead of regarding as consequences of violated law, and thus in many kindred matters. The great mass of mankind also get their thinking done by PROXY.

POLITICAL LEADERS do up most of what little political thinking is done, and can ride into power on any hobby, however unreasonable, they please to mount. Tremble for republicanism, that glorious birth-right of humanity!¹⁸¹ See how voters follow their *party*. *Leaders* virtually do their voting. Behold the growing and fearful prevalence of demagogueism! Every vote should be a deposit of an *idea*. Now nine votes in every ten are a party ticket, which unprincipled leaders control at pleasure. How few think in politics!

RELIGIOUS LEADERS also do most of the religious thinking of mankind. Why, the very summary of all the articles of faith of one of the most numerous religious bodies in Christendom is that they are incapable of forming their own opinions, and must take them already formed for them by antiquity and their "infallible church." The very act of pinning faith on "the church," "general assembly," "the general conference," "articles of faith," etc., is a virtual surrender of independent thinking; and the fact that men follow their sectarian leaders thus blindly is proof positive of their own feebleness of reason, at least in religious matters. If men thought for themselves, would these religious differences exist? This very sectarian diversity presupposes error,¹⁹⁴ which, if men did their own religious thinking, they would perceive and abandon.¹⁹⁵

THE FASHIONABLE world too—does it think? As well "look for a needle in a hay mow," as for a thought among our exquisites. Business men think on money matters, but this is not thought proper. They are shrewd indeed, in scraping up almighty dollars, but reason proper searches out the great principles of *Nature*, and investigates those fundamental laws of things, on the observance of which human happiness depends.

DEDUCT the business world, the fashionable world, the religious

world, and the political world from the whole world, and then subtract from this balance the ignorant and debased who do not even essay to think at all, and what a miserable moiety remains? This barrenness of reason allows designing men, by flattering the prejudices and pandering to the passions of the masses, to convert the latter into mere dupes and suppliant tools by which to accomplish selfish and wicked purposes; enables the few to control the many; starves those who live by their intellects, but showers honors and fortunes on those who live by feeding the propensities of mankind; renders polite conversation perfectly nonsensical; rates riches higher than talents; and renders man a creature of blind passion. Oh! when will men learn to think? When govern their opinions and conduct by the principles of true philosophy? When leave these petty trifles, and place **MANLY THOUGHT** at the helm of both public affairs and private opinion and conduct? When their

CULTIVATION OF CAUSALITY is commensurate with its immense importance. This poverty of reason is not Nature's fault. She has provided amply for its abundant and required ascendancy. Has the reader never observed the fine, high, expanded foreheads of children, and admired those noble developments so often seen at the sides of their upper portion? Cast your eyes over a hundred children, and then over a hundred adults, and behold with pain the marked superiority of the former over the latter! Yet the reasoning organs are the last by Nature to be developed, and, if her order were carried out, would grow larger relatively, instead of smaller; for progression, not decline, is her motto.²¹⁶ Finely developed as are the foreheads of most children, those of adults might and should be, relatively, still larger. Children generally have from one-fourth to one-third better intellectual lobes, relatively, than adults; whereas this relative difference should be in *favor* of *adults*.

THE INTELLECTUAL CAPABILITIES of children are also, relatively, superior to those of adults. Observe their remarks. How pithy, and full of appropriateness and meaning? And how often they detect and expose, by quaint remarks, the absurdity of the dogmas often taught them? Do they not evince a quickness, sagacity, penetration, and intuitive perception of things, rarely observed in them when grown up? And are not their contrivances of ways and means for accomplishing ends, often extraordinary? A girl of only eighteen months old, praised her aunt as a means of obtaining candies, and other favors. So common became this practice of working round upon the blind

side of the aunt by adulation, that when she praised her aunt, the latter would ask her what she wanted? When a little over two years old, waking up one evening, she found the company eating almonds and raisins. Knowing that to ask father, mother, or aunt for them was useless, she went to her uncle, whom she did not like any too well, and laying her head back affectionately upon his lap, began, in a very coaxing manner, to call him "pretty," "good," and the like. When asked, the next morning, what made her uncle pretty, she replied, "because almonds and raisins are pretty." To thus administer praise at this early age, as a means of obtaining favors, evinces a deep and well laid *plan* for effecting desired ends, and discovers an amount of Causality rarely supposed to exist in children, but which doubtless most readers have seen equalled. For the correctness of this declaration, that both the reflective Organs and Faculties of children exceed those of adults, appeal is had to universal observation and experience, even though Nature ordains their relative increase as age advances.

WHY THIS DECLINE? What is its cause? INACTION. Because juvenile intellect is shut up in a school-house, pinned fast to a bench, and stifled by parental inability or refusal to feed their inquiring minds! Their brains become withered, and then stagnate over the studies they are required to pursue; and their being whipped to school, and chastised at school, engenders a dislike of the teacher and a hatred of books, which results in mental vacuity, and consequent decline. Phrenology unequivocally condemns the present system of training the juvenile mind, as not adapted to it, and calculated to deaden instead of developing its energies. Of this our entire work gives ample proof. Our imperfect system of juvenile education mainly causes this poverty of intellect. The former does not cultivate the latter, and hence this lamentable decline of man's crowning capability. Causality is literally *starved*, not only during childhood, but adolescence, and even through life. How, then, can this poverty of intellect be obviated, and its long array of direful ills be supplanted by all the blessings conferred by fully developed and well directed intellect? One means is by

ANSWERING CHILDREN'S QUESTIONS. They ask a perpetual string of them. Their what-what questions pour a perpetual stream of instruction into their opening minds. But they also ask innumerable *why* and *wherefore* questions, which, properly answered, render any child well educated, though ignorant of even his letters. When some five or six years old, I asked my father, who was husking

corn, why the rows on this ear were crooked, while those on the others were straight? "Because it is not rowed," was his answer. Over this reply I thought long and much, wondering what he could mean by its not being rowed, till I finally came to the conclusion, that as I had seen him go through the cornfields to hoe the corn, so also he went through to row it, but had skipped this ear. Behold how excellent an opportunity was thus afforded him for teaching me the great law of things that Nature always puts the greatest possible amount of function into the smallest possible space—that the cylindrical form of the cob allows more corn to grow on a given size than if it were in any other shape, besides allowing every kernel to draw from it the required nourishment; that the kernels are placed in rows in order to completely fill up the entire space; whereas unless in rows, some would be too much crowded, while on other parts would be none. He might then have proceeded to illustrate this law by other samples, and finally by the human body, so arranged as not to leave any unoccupied space, but to be completely filled up with organs, and concentrating the greatest possible amount of function in the smallest possible space. The continual string of questions asked by children, provided you will allow it, furnishes perpetual opportunities for explaining important truths, and teaching valuable lessons. And yet, strange to relate, many parents actually become angry at them for asking questions, and interdict this best of all means of imparting instruction. An unusually inquisitive, that is, uncommonly smart child, once asked her grandmother what bricks were made out of; and when answered, asked what made them red? The reply she received was, "Oh, do hold your tongue. You're troubled with a noise in your head. Don't ask so many questions, and no one will know you are a fool. Girls should be *seen*, not heard." The grandmother could not tell why, and therefore became angry at the child for having asked.

Answering their questions is as essential to their intellectual growth as food is to that of their bodies, or roots are to that of the plant. And yet, our present educational system discourages instead of answering them. What questions do or can children ask at school? Yet would not answering their questions convey instruction and develop mind far more effectually than learning to read? Would it not excite ten times more intellectual action, and thus proportionally promote mental discipline? Let them be even encouraged to ask all the questions they think of; and let not parents or teachers bluff them off with shuffling answers. Give them the true explanation, or else

tell them you do not know. And if you can couple your answers by a familiar illustration, all the better. An inquisitive girl, seeing a fountain in operation, asked what made the water rush up so fast and then come down? Her father, on returning home, took a long hollow tube which had an angle in it, and pouring water in at the top, showed how the water of the fountain was forced upwards by the pressure of water in a high reservoir, running in pipes under ground. Parents should also educate *themselves* in order to educate their children, and should rely on home instruction, not on hired teachers.¹⁷⁶ Still another method of developing juvenile intellect, is by

TEACHING CHILDREN TO THINK FOR THEMSELVES. They are too often taught to believe instead of to *think*; or else to think from erroneous data, by which their Causality is warped from the very first. Teach them to do their own thinking. Give them correct starting points, and then let them investigate and judge for themselves. Fear not that they will come to wrong conclusions; because Causality, in common with all the other intellectual Faculties, acts by intuition. "It whistles itself." Unbiased, it will always draw correct conclusions. That same intuition which teaches them to see, keep their balance, and even to eat and breathe, governs all their Faculties, Causality of course included. All it requires in order to come to correct conclusions is right data. Do their thinking for them while they are children, and they will get it done by others when older, and can be led blindfold in politics, literature, religion, every thing. Children should also be taught, to

ANSWER THEIR OWN QUESTIONS. They were told something yesterday, which virtually answers a question asked to-day. Recall these answers, and tell them to put different matters and things together, and form their own judgments. Are not these educational directions in perfect keeping with common sense and the laws of mind? Do they not account for the decline of intellect already deplored, and show how it can be remedied? The human mind, if started on its intellectual career in harmony with those mental laws pointed out in this work, would not thus flag before its powers fairly began to expand, but starting on high ground, would rise higher in its intellectual acquisitions and capabilities every day of life. Between fifteen and twenty, this disposition to think and investigate receives a new quickening, coupled with a vast accession of power. All who look back to this period will bear experimental witness, that now they began to think, investigate, inquire into the Nature of things, search out

causes, and take expanded views of subjects. Yet their labor then began to be valuable; and intellectual culture must be subjected to worldly pursuits. They must work if poor, and if wealthy, play "blind bluff" with foolish fashion. Soon after love asserts its dominion, the cares of the family supervene, and all combine to rob intellect of that cultivation so indispensable to its growth. Of these evils all are experimentally conscious. How can they be obviated?

TO CULTIVATE Causality, *think*, study causes, and investigate those subjects in which you are specially interested; muse, meditate, and cogitate; yield to the influx of new ideas; adapt ways and means to ends; contrive out the best modes of overcoming difficulties, and attaining desired ends, thereby both disciplining this Faculty, and promoting success together. To promote its required spontaneous action, present its appropriate food or stimulus, namely, Causation. Investigate the means employed by nature to effect her ends. All creation is one grand theatre of universal causes, which often overlap each other, and are involved within, or adapted to each other. From the most elementary to the most complicated, behold the infinitude of their number and variety. No function of inert or organized matter, or of the immortal mind, but they affect. Nature's universal motto is a cause for every effect, an instrumentality for every operation. How vast her doings! As countless her means! Behold the number of causes or means she employs, apparent to our vision. Apparent? Rather *thrust* upon our cognizance.⁶⁸ Air, earth, water thronged throughout with unending causation. Can the sands of the sea-shore be numbered? Yet every one of these has its causes, and in turn becomes a cause. Who can count the leaves of the forest? Every one is both caused and governed by a variety of laws. Nor sand, and leaf, and plant, merely, but earth herself, a mere atom in that infinite range of causation which originates with the eternal Cause of all causes, and extends to the farthest and the smallest atom of the universe, is both an immense effect and cause. Behold it hurled through illimitable space, as if a mere feather. An arrow, shot from its Indian bow, with however much precision and force, so as to pass *clear through* the running, raging buffalo, how insignificant, compared to this mighty ball, flung through mid-heaven, as if the smallest and lightest thing in creation. Behold the unerring return of the silvery moon, itself a huge mass, but the lightest of the light in the hands of this almighty causation. Sun and stars, so vast, so far removed that mortal mind can form no adequate conception of either, yet hurled

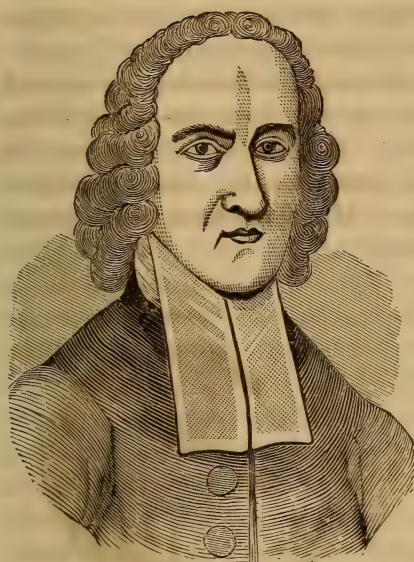
with unerring precision, like lightning along their annual and periodical cycles. And these all united only a little segment of that vast belt of suns and worlds, governed by Infinite Causation, as if an atom merely. And every one of this universe of worlds, doubtless thronged throughout with plant and animal, each an epitome of Infinite Causation. Oh! the myriads of causes and effects in perpetual progress from "everlasting to everlasting," throughout the infinitude of God's works! Their stupendous power hurls a universe of worlds, from age to age, with that same perfection and ease with which it descends to the merest trifles of creation. All, all effected by causation! Verily, the range of causes and effects opened to our investigation and admiration, is indeed INFINITE!

BUT WE NEED NOT go out of ourselves for subject-matter with which to feed this delightful Faculty. Every motion of every limb is effected by some instrumentality, as is every animal, every mental function of our complicated nature. Behold the perfection of our motions, of all our functions, and in view of them who can help exclaiming, Oh, the wonders of Infinite Causation! Not a muscle is wanted but is supplied, and exactly fitted to perform its required office. Not a bone, not a nerve omitted. The entire body crowded with organs which become the causes of required operations. Of this the eye is often chosen as a sample; but, perfect as it is, every part of the body is an equally perfect example of the perfection of that causation which crowds every portion of the body, every department of Nature! But all these causes and effects, infinite in greatness as well as minuteness, are nevertheless as a drop in the bucket of Divine Causation. What is tossing huge worlds throughout space as if the merest foot-balls, compared with that infinitely higher order of Causality which unites mind to matter, and governs all its operations? The human mind, however vasts its powers, can penetrate no farther into this boundless series of causes and effects than a fly can see into the philosophy of this mundane sphere. Verily, "what is man that thou art so mindful of him?"

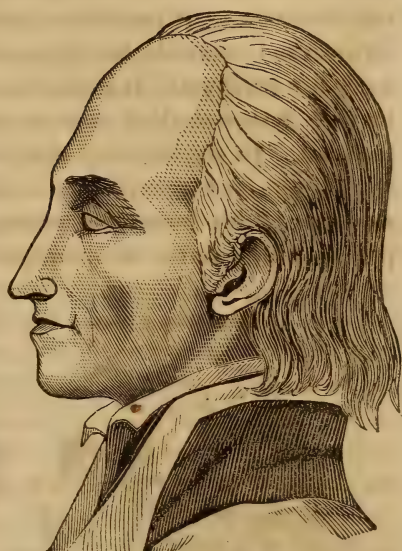
PHRENOLOGY, however, proffers the *very* best discipline of Causality known to man. It more than all other studies, promotes thought, even more than Observation.²⁴³ Reader, has not this work provoked more ratiocination, evolved more first *principles*, given you more *ideas*, expounded more *philosophies*, and promoted your mental *expansion* more than any if not all the other books you ever read, not because of the surpassing Causality of its authorship, but of its SUBJECT MAT-

TER? Where else can you find logic as direct and pointed; inferences as numerous, various, and important; teachings as profound, and basilar truths as comprehensive and valuable?

PARTAKE, then, O mortal, of this "feast of reason" thus spread, literally thrust upon thy perpetual cognizance! What, wilt thou shut thine eyes? Worlds of beauty strown around all within thee, and yet thine eyes hermetically sealed against them! The "almighty dollar," perhaps only brass, held so closely to thy optics as to shut out this splendid galaxy of beauty and divinity! Boast not of thy possession of wisdom, O human son of folly, till thou hast searched out some of these "ways" of a wonder-working God! Is it wise thus to toil for mere vanities, to the almost total neglect of SUCH a prize as the reward of cultivating Causality? Eternity itself will be too short in which to study out all this array of causation, though pursued with the mental optics of angels.²¹⁷ Then shall we not begin such study in this life? No one thing will probably contribute to the joys of heaven equally with this study of causation: then shall it not be commenced in *this* life? Shall we not train ourselves here for this leading occupation and repast of eternity? Shall we fool away our probation on mere worldly occupations, on getting something to eat, wear, and use of a temporary nature, in satisfying merely artificial wants, to the neglect of the delights and advantages of studying these inimitable causations of Nature? We could have had no just cause of complaint in case God had shut our eyes upon them, because the poor use we make of them shows how little we deserve such a mental and moral repast. But as He has so graciously bestowed upon us this gift of angels, and thus given us mental optics by which to discover these relations of causes and effects, shall we not assiduously improve them? Can we derive more pleasure in any other pursuit? Better live on the simplest fare, and take no heed to the fripperies required by silly fashion, and thus save time to cultivate so glorious a gift. Is it possible to do anything more important?²⁶¹ Anything, which, when done will contribute more to our happiness?¹⁵ Yet those who cannot spare time from the fashionable world, or the politico-squabble world, or the invincible-dollar world, or the idle world, or the tom-foolery world, to study this highest subject of human research, must go down to their graves in mental darkness.



No. 199.—PRESIDENT JONATHAN EDWARDS.



No. 200.—FATHER OBERLIN.

XLI. COMPARISON.

270.—ITS DEFINITION, LOCATION, HISTORY, PHILOSOPHY, ETC.

THE CRITIQUE:—Sagacity; perspicacity; analysis; induction; desire and ability to classify, compose, compile, draw inferences, scan, discriminate, criticise, illustrate, explain, expound, use figures of speech, discern the unknown from the known, reason from analogy, expose, put this and that together and draw inferences, detect error from its incongruity to truth, reason from analogy and by induction, that is, generalize facts and read their lessons, or spell out laws from facts. Sophistry is its perversion, as is hypercriticism.

ITS LOCATION is in the middle of the upper part of the forehead, just below the hair, above Eventuality, and between the two lobes of Causality. It commences at the centre of the forehead and runs upward nearly to the hair. When it projects beyond surrounding organs it resembles a cone apex, forming a ridge which widens as it rises. Its ample development elevates the middle of the upper portion of the forehead, and gives it that ascending form so conspicuous in the accompanying engraving of Jonathan Edwards and Father Oberlin, each of whose entire intellectual lobe is very large, and Com-

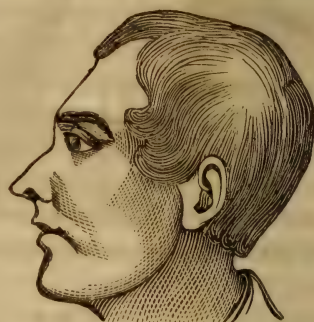
parison pre-eminently developed. When it projects beyond the surrounding organs, it rounds out its upper portion, causing it to project forward and upwards, but allows it to retire in proportion as Comparison is less developed. It is less than Causality in Herschel, as is evinced by that darker shading seen to pass up and down the middle of his forehead. Its size is easily observed. It is immensely developed in Shakspeare, and the powers it imparts form the most conspicuous elements of his inimitable writings. His shrewdness, sagacity, and powers of illustration were unequalled.

COMPARISON LARGE.



No. 201.—LINNÆUS.

MODERATE.



No. 202.—BARLOW.

"I often conversed with a philosopher endowed with great vivacity, who, when unable to prove his point by logic, had recourse to a comparison, by which he often threw his opponents off the track, which he could not do by arguments. As soon as I perceived that this was characteristic, I examined the form of his forehead, for I knew that an intellectual power would be located there rather than among the propensities; and observed in the external superior middle part of his frontal bone a great lengthened prominence, not before observed, commencing in the anterior superior middle part of his forehead, where it was about an inch broad, and contracting like a cone, reached its middle, where it touched Educability. I then observed both whether those who followed this method in their discourses and writings had this organ, and whether those who had this organ pursued this method; and found all my observations to confirm my suppositions, and concluded that a connection exists between this development and discerning analogies and resemblances. Two Jesuits distinguished for their comparisons and parables, and father Barhammer, who riveted his hearers by familiar comparisons, all had this middle anterior superior part of their foreheads developed into a conical eminence. All my observations only convinced me the more. Its possessors seize and judge well of the relations of things etc., and are well fitted for business. Children in whom it is large prefer

fables. We found it large in the famous preacher Hufnagel, and with lively joy saw it very large in Goethe ; and this talent abounds in all his writings. It is most useful to poets, for with it everything becomes an image. St. Thomas Aquinas, the most profound, judicious, and clearest scholar of barbarous times, has this organ very visible in his bust."

"Why should Nature put this organ in the median line, where all of the most essential organs are always found? Because the education of the race commences with these comparisons, which form ideas, images, and pictures. Even language becomes as it were personified, paints as well as impresses, and creates hieroglyphics, signs of objects, emblems, mythology," etc.—*Gall*.

"ITS AIM is to form abstract ideas, generalize, and establish harmony among the operations of the other Faculties. Color compares colors with each other, but Comparison adapts them to the objects represented, rejecting lively colors to represent a gloomy scene. Tune compares tones, but Comparison adapts the music to the existing occasion ; censures dancing music in church ; dislikes wearing fine clothes in the dirt, or seeing fine things beside common ; feels inferior and superior relations ; and prefers the superior," etc.—*Spurzheim*.

"By common observers the metaphors, amplifications, allegories, and analogies supplied by Comparison are frequently mistaken for the products of Beauty, though they are very different. Beauty being a sentiment, when excited, infuses passion and enthusiasm into the mind, and prompts it to soar after the magnificent, and beautiful ; while Comparison, being an intellectual element, produces no vivid passion, no intense feeling or enthusiasm ; but coolly and calmly plays off its corruscations derived from the other powers."—*Combe*.

ITS ADAPTATION is to the *natural classification* of all objects. Every single natural production is self-classified. Thus, every pine or every chestnut and every other tree bears so close a resemblance to all others of its kind as to be easily recognized, and thus of all stones, trees, herbs, roots, grains, seeds, flowers, fruits, animals, and things in Nature. This classification or similitude established throughout all the vast ranges of her works, enables us to assort animals and things of the same and kindred, genera, and species ; tells us for certain that a given eagle flies instead of swimming, merely from its resemblance to flying and not to swimming animals, and ranges all animals and things in classes, our own race included. It tells us that a strange horse will eat hay but refuse stones, just from his resemblance to other horses ; that all apples grow on apple trees instead of in the ground, or in animals or water. It tells us, in the absence of all knowledge and description of him, and with infallible certainty, that the emperor of China has a head, heart, mouth, and other organs, and that he eats,

sleeps, breathes, and does many other things, just by his resemblance to other human beings who do them; infers correctly that a fire we never saw before will burn us if we touch it, from its resemblance to all other fires which Eventuality remembers burnt before; informs us that a given stranger, of whom we know nothing, has bones, muscles, brain, and other organs, and tells us in what parts of his body they are located; that he cannot eat arsenic or iron, yet that he requires food and breath, merely from his resemblance to others of whom these things are true, etc., etc., of things innumerable. Before trying it, how do we know that a given tree, cut up and put upon the fire, will burn, evolve heat, and produce ashes and smoke? or that a particular stone thrown into the air will fall? or that water will descend, food nourish, a given fish inhabit water, and thus of other things innumerable? By their resemblance to other things of which we know these things are true. These illustrations show how vast an amount of our most common-place as well as rare knowledge is correctly inferred by Comparison. In short—

THIS GREAT CLASSIFYING LAW of things discloses the natural history and constitutional character of all animals and things. It is Nature's universal key, and unlocks her vast storehouses of truth. But for its existence in Nature, no animal, no vegetable of one kind would have borne any resemblance to any others of the same kind, nor would men bear any resemblance to each other in appearance or character any more than to trees or elephants. Indeed, no such thing as resemblance would have existed, and all Nature would have been one vast Bedlam. Or, but for this Faculty in man, though things would have been classified, yet he could never have discovered or applied this law, nor have distinguished men from brutes or vegetables, or anything from anything else. Yet this arrangement in Nature, combined with this Faculty in man, enables him to *generalize*; that is, when he has learned a general truth inductively, apply it to all new but analogous facts. Analogy is undoubtedly designed and adapted to convey a vastly greater amount of knowledge than is now learned from it. Inductive reasoning is yet in its merest infancy. Its revelations in comparative anatomy, organic chemistry, and many other sciences, fully assure us that it can be applied with equal success in all departments of science, Phrenology and Physiology included. Man has just learned from it, merely from inspecting a single stray bone of any unknown animal, to tell all about the habits and natural history of that animal. What, then, is to be the end of its teachings?

Few duly credit it with the reasoning capability it really imparts. It reasons even more and better than Causality.²⁶⁸

271.—DESCRIPTION, CULTIVATION, ETC., OF COMPARISON.

LARGE.—Possess this analyzing, criticising, and inductive power in a truly wonderful degree ; illustrate with great clearness and facility from the known to the unknown ; explain things plausibly and correctly ; discover the deeper analogies which pervade Nature, and have an extraordinary power of discerning new truths ; reason clearly and correctly from conclusions and scientific facts up to the laws which govern them ; discern the known from the unknown ; detect error by its incongruity with facts ; have an excellent talent for comparing, explaining, expounding, criticising, exposing, etc. ; employ similes and metaphors well ; put this and that together, and draw correct inferences from them ; with Observation and Eventuality large, and activity, have a great facility in making discoveries ; with large Expression, use words in their exact meaning, and are a natural philologist ; with large Continuity, use well-sustained figures of speech, but with small Continuity, drop the figure before it is finished ; with large Observation, Eventuality, activity, and power, have a scientific cast of mind ; with large Worship, reason about God and His works ; with large Mirth, strike the nail upon the head in all criticisms, and hit off the oddities of people to admiration ; with large Beauty, evince beauty, taste, and propriety of expression, etc. ; readily detect resemblances, differences, and bearings ; generalize correctly from a few facts ; see from little what a good deal means ; spell out important results from slight data ; infer readily and correctly ; discern at a glance the point at issue, and speak to it ; are copious and appropriate in illustration, and frequently explain the meaning by supposing similar cases ; are easily and fully understood ; clear up difficulties ; explain and expound clearly and plausibly ; readily detect incongruities and errors ; criticise and pick flaws ; and seek to trace facts out and up to those general principles which govern them, etc.

FULL.—Possess a full share of clearness and demonstrative power, yet with large Causality, and only moderate Expression, cannot explain to advantage, etc.

AVERAGE.—Show this talent in a good degree along with the larger organs, but poorly with the smaller ; with large Eventuality, reason mainly from facts ; with moderate Expression, fail in giving the precise meaning to words ; and make fair analytical discriminations.

MODERATE.—Rather fail in explaining, and clearing up points, putting things together, drawing inferences, and often use words incorrectly; with Observation and Eventuality moderate, show much mental weakness; with large Causality, have fair ideas, but make wretched work in expressing them, and cannot be understood; with Mirth full or large, try to make jokes, but they are always illtimed and inappropriate, etc; do not bring ideas and remarks to a specific point; fail in clearness, and are bungling and inappropriate in illustration and remark, vague and pointless in both ideas and their communication, and imperfect both in the classification of ideas and perceiving the general drift and bearing of things, especially of Nature's operations.

SMALL.—Have a poor talent for drawing inferences; lack appropriateness in everything, and should cultivate this Faculty; have little, and show less sense.

TWO ORGANS of Comparison, doubtless, exist: the lower one more appropriately connected with the physico-perceptives, in comparing physical substances with each other, and reasoning thereon; while the latter combining more naturally with the moral Faculties, reasons from the physical to the moral world; compares ideas; criticises and discriminates between them; and imparts logical acumen.

If this be so, morals and religion are distinctly brought within the scope of our investigating powers, so that we can know much more and more certainly, about ethics, a future state, the spiritual world, and kindred subjects, than is generally supposed, thus rendering the subject matter of Part IV. *scientifically* perceptible to mortals.

INDUCTIVE REASONING consists in discerning, from a great number of converging facts, the law which governs them, and therefrom inferring that all similar facts are governed by the same law. This mode of reasoning, properly applied, is an infallible exponent of truth. It bases its conclusions in *facts*, by analyzing which, it ascends to those comprehensive laws which govern them. Trying to reason without facts, is like attempting to build without a foundation. The "major," "minor," "sequitur," "non-sequitur," and all the scholastic speculations of the ancients can never discern truth or detect error, but inductive investigation can do both. The former can be made to subserve error almost as plausibly and universally as truth; while the latter clearly discerns and defines universal truth, and infallibly exposes error. It teaches us experimentally, and therefore with absolute certainty. Results thus obtained, the human mind constitution-

ally regards as CERTAIN, and relies upon them as infallible truth. It is the "royal road" to positive knowledge, and leaves no room for doubt or evasion. Rightly applied, it never misleads. It constitutes the great key to Nature and her works; unlocks her laws; and shows us what will be from what has been; is the great expounder of general laws, and teacher of the human mind, and especially of the juvenile; teaches children to avoid the fire; that to fall will cause pain; and thus of all kindred knowledge they acquire. As we grow up, it soars into still higher regions of truth, and, if duly prosecuted, would teach man a thousand fold more than he now knows.

WITHOUT COMPARISON to complete the reasoning process by discovering the laws which govern things, and work up the materials furnished by the other Faculties into correct conclusions, we could never learn even that fire would burn; and, therefore, though we might amass knowledge, yet we could never apply it. The other Faculties "put out" words, while Comparison SPELLS them. Since it lies at the very basis of all practical application of experience and knowledge, and teaches so vast an amount of truth taught nowhere else, it should be assiduously cultivated from the cradle to the grave, and that extension or universality of views which it proffers, be gladly improved. How, then, can this improvement be effected? Run facts up and out to the great principles which govern them: *infer* from all you see, and *spell* out the lessons or results of all facts and data brought before you. As many gaze at things without actually seeing them,²⁴³ so still more barely notice occurrences and conditions, but fail to *apply* them. Ferret out truth and laws from all you see. Examine every thing with a scanning, scrutinizing, searching mind. Compare one thing with another, one idea of a speaker or author with his other ideas, and detect errors if he commits them, and also discern his beauties, and what renders them beautiful. Especially criticise your own mental productions. Write,²⁶⁵ and then thoroughly revise what you have written. Scan its doctrines, and especially the *order* of its paragraphs and sentences. Many writers unaccustomed to composition form correct sentences, and say many good things, yet fail in consecutiveness. Every head, paragraph, and sentence has its appropriate place relatively to all the others, where it advances the train of thought. This progression in the idea, few writers duly notice, but say in one connection what, though true and important, should have been said in some other. Comparison will find excellent discipline in thus arranging heads, paragraphs, sentences, and clauses in that con-

secutive order required to render the impression complete. Criticise all you read with this view, the work in hand not excepted.

TO CULTIVATE.—Put this and that together and draw inferences; spell out truths and results from slighter data; observe effects, with a view to deduce conclusions therefrom; study logic and metaphysics, theology and ethics included, and draw nice discriminations; explain and illustrate ideas clearly and copiously, and exercise it in whatever form circumstances may require.

PHILOLOGICAL CRITICISM, or scanning words to see whether they are used in the best manner, or whether some others would not have conveyed the meaning more correctly, furnishes an excellent discipline of Comparison. Expression calls up words, but Comparison *assorts* them, and chooses the one which exactly expresses the idea intended; and out of many words, nearly synonymous, chooses the one most appropriate. Than this verbal criticism, in connection with grammatical, which is another function of this Faculty, few things furnish a better exercise of critical acumen. Opportunities for its exercise are abundant; for we cannot read a line without furnishing the required subjects for criticism. The study of the natural sciences EXPERIMENTALLY, but most of all the study of HUMAN NATURE, as taught by PHRENOLOGY, PHILOLOGY, and PHYSIOGNOMY, furnishes still higher facilities for its culture.

TO CULTIVATE IT IN CHILDREN, use the parabolic, comparative, illustrative method of reasoning. They comprehend principles and laws which they do not understand, much more readily when compared to something which they already know, than by all other means united. Hence, take every pains to explain, expound, illustrate, and compare, both in conveying instruction and in answering their questions. Christ taught mostly by parables, because the human mind constitutionally receives instruction through this channel more readily and effectually than through any other; this is doubly true of children. Every one at all conversant with their cast of mind will bear witness how readily they comprehend comparisons, and how forcibly illustrations strike them. Through this natural channel, then, pour instruction into their opening minds. Especially teach them the inductive process of reasoning, or how to draw inferences from ranges of facts. Thus, in teaching them the great law that heat expands all bodies, take a phial or tumbler filled so full of water that another drop would make it run over, and setting it on the stove to heat, show them that as it becomes hot it runs over, but settles down as it again

becomes cool, or that heat so expands the water as to increase its bulk, and the glass so as to render its cavity smaller, which forces a portion of the water over its top. Show them that this same principle causes water to boil by expanding most what is nearest the fire, which therefore makes it rise ; while that which has become cooler by contact with the air, sinks, in its turn to become heated, expanded, and again thrown up. Take a bladder partly filled with air, and let them hold it to the fire and see it swell, and carry it back and see it shrink a few times, till they see that heat expands and cold contracts air as well as water. Then explain on this principle the motion of the wind. The sun, breaking through the clouds in one place, and not in another, heats the air in the former more than in the latter, and thus swells it, so that the same amount is puffed out, and therefore relatively lighter, and is carried up by the cooler and therefore heavier air—just as a cork rises to the top of water—which rushes in to fill its place, becomes heated, and is displaced by another ingress of cooler air ; and hence the perpetual motion of the wind and atmospheric changes. Let them see a blacksmith hoop a wheel. When hot, the tire is so loose as easily to slip over the wheel, upon which it contracts as it cools, thus pressing tight upon the wood every way, and making it solid, besides adhering firmly. A few such experiments and familiar explanations will teach them the great law of things, that heat always expands and cold contracts, which they will remember forever, and around which, as a nucleus, they will gather future observations ; for never afterwards would they see any exemplification of this law without associating the two together. Explain still farther that steam is only water thus greatly rarefied by heat, the expansion of which drives the piston, and this turns the machinery ; but that steam returns to water when it cools, and thus becomes greatly condensed. Take the formation of ice on the top of water, and other classes of facts, and apply them similarly so as to teach them still other laws, one after another, and thus keep their delighted minds on the stretch of pleasing inquiry and investigation, and ever afterwards, whenever they see any fact coming under any one of these principles, they will associate the two together, and thus progress rapidly in their examination into Nature and her laws ; as well as form a mental habit of correct and ready generalization, and inductive investigation. Thus trained, they would not reject Phrenology or any other new thing till they had examined it inductively, and hence would never make such egregious blunders as men now sometimes commit, of believing and disbelieving without evidence.

TO HEALTH this method of teaching can be applied with special advantage. Show them that such and such articles of diet make them feel thus and so; that, as they take cold by certain exposures, become sick, and must take bitter medicines, so similar exposures will produce similar effects. The method of teaching thus illustrated, can be carried out to any extent, both as to the mode of teaching, and the subjects taught. But take special pains to observe *simplicity*. Most teachers take it for granted that the pupil understands and comprehends more than he does. Goldsmith, whose mathematical powers were quite deficient, was once asked why he taught his class so well? He replied, "Because I keep only one lesson in advance of them." We must come down to their capacities, and adapt our instruction to their limited knowledge of the subjects taught.

TO RESTRAIN.—Keep back redundant illustrations and amplifications, and base important deductions on data amply sufficient.

COMPARISON is located by the side of an organ which READS CHARACTER, in combination with which it is therefore designed to be exercised. Indeed, this combination furnishes one of its highest subjects of investigation.

XLII. INTUITION, OR "HUMAN NATURE."

272.—ITS LOCATION, ADAPTATION, DESCRIPTION, CULTURE, PHYSIOGNOMY, ETC.

THE PHYSIOGNOMIST—Instinctive perception of truth; discernment of character and motives; intuitive knowledge of men from their looks, manners, conversation, walk, and kindred indices.

ITS LOCATION is between Comparison and Kindness, about where the hair usually begins to appear. It extends upwards, as if it were a part of Comparison. The immense height of Shakspeare's forehead at this point shows that it was enormously developed in his head, and in character he had no superior, probably never an equal.

ITS ADAPTATION is to expression. We have before shown that all truth "will out." Nature is a great discloser of universal truth. Her facts shine out; so do her principles. She will neither falsify herself, nor let any of her children. To her all truth is infinitely sacred, and to be proclaimed.

NATURE LABELS all things, and obliges each to carry its own label in full view. She obliges vultures to proclaim their voracity and ferocity, so as thus to forewarn all other birds against them, and gives

to amiable birds a lovely exterior.⁶⁰ Alligators, loathsome, selfish creatures, have a repulsive aspect; while peacocks are both beautiful and amiable. Even luscious fruits look as inviting as they are delicious. This law runs throughout all creation.

IN PINKERTON, the world-renowned police and national detective, who spied out some war secrets most important to the government, and conducts the best detective establishment in our country, Intuition, Observation, Form, Eventuality, Locality, and Comparison are altogether enormous, amounting almost to a deformity, and his well-known detective capacity illustrates their combined activity.

ALL PERSONS ought, and are obliged, to report themselves. "Sexual Science" applies this law to the sexual states.³⁷² It applies equally to all other existing characteristics. All men have an inalienable right to know one another. If a man is honest or dishonest, smart or dull, or whatever else he may be, his Nature makes him tell all to all who can read her signs of character. At all events, all *do* proclaim themselves, and to a much greater extent than any now imagine. Nature compels all to fly their mental flag at mast head, and show their individual colors, and labels all her children good, bad, and medium, according as they are; nor can her labels be effaced or counterfeited.³⁷²⁻³⁷³ Its means or instrumentality is that

THE MIND AND FACE ARE INTERRELATED.⁵⁹⁻⁶⁰ All the mental operations shine out through "the human face divine." Highly emotional persons manifest themselves more emphatically and distinctly by their countenances than words. Peculiar shadings of feeling and existing thoughts and desires are expressed and can be read in this "mirror of the mind" better than words can possibly portray them, and without the possibility of deception in the one read or reading; and without instruction by either. And since some can

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thus be read, all can of course be. Indeed, facial expression is by far the best medium of communication known to man. Men thus do read and adjudge each other intuitively, and in the great aggregate, correctly.

ALL THE GENERAL AND PERMANENT characteristics can also be read correctly. Nature will not lie, nor let her children. As screams of genuine fear, distress, etc., can easily be detected from spurious; so can all counterfeit and genuine looks. To be effective, actors must first *feel* what they represent. Their counterfeits must be genuine.

ALL EXISTING BODILY states are also told instantly and correctly in the face. Two persons, meeting after even a long separation, instinctively admeasure any changes in both each other's health and moral tone, and all their other states since they parted. If either has degenerated or improved in health, the other instantly catches and estimates it correctly, and even wherein; or if either has grown better or worse morally, the other notes which, and its amount instantly, and admeasures it correctly. Nature compels everybody to tell everybody else who sees them whether they are growing better or worse, and just wherein; in any and in all respects. This natural language is a great fact, and a great volume of truth all should learn to read.

THE FIRST IMPRESSIONS all intuitively entertain of their fellow-men are generally correct. If at first sight you shrink from a person as bad, you will find him bad. If on further acquaintance you change your mind, a still further acquaintance will probably compel you to change it back to your first conclusions, by which all may safely abide. Involuntary attractions and repulsions are not for naught. A. and B. may be mutually attracted, and C. and D. repelled, yet A. and C. may be mutually attracted, and B. and D. repelled, and *vice versa*, showing that one may be drawn to, and another repelled from the same person. This is doubly true of sexual attractions and repulsions.⁵⁰⁸

THIS INTUITIVE character-declaration and reading is an *ordinance of Nature*, a divine contrivance, a law of things, a natural science. It extends even to animals, vegetables, and fruits. They *look* inviting or loathsome, and *are* as they seem to be. We know a good from a poor apple, pear, peach, even turnip and potato, and both from a medium. This proclamation runs throughout creation, and appertains to all things. Physiognomy is one of the natural sciences.

SOME MENTAL FACULTY must needs adapt man to this natural

ordinance ; else it would be useless, because imperceptible to him, and this beautiful and useful arrangement unknown. This needed Faculty Intuition supplies ; and is adapted and adapts man to this fact in nature. But it goes much further.

THOS. KEAN, the talented Editor of the *Buffalo Courier*, has suggested, and all our observations go to confirm his view, that it also gives an intuitive perception of whatever is ; that it darts right through all false appearances and all clouds, and perceives the naked truth. It is the essential element in the detective. It both reads men by instinct with infallible accuracy, and spells out the teachings of the least signs of any thing. The merest hint or shadow of one reveals to it a whole volume of truth. It strips off all false appearances at one tear, and shows the object in all its native beauty, or deformity, or their admixture. It is the great sign-speller and reader, as Form is of letters and words.

DISCERNING UNIVERSAL TRUTH is another of its functions, and that still more important. Since it reads men, why not also other things. It spells out character from minor signs, but it spells out all other truths equally. Intuitive perception of universal truth from little data is its specialty. Men certainly do possess this gift ; and some to a much greater extent than others. In some the merest inkling suffices to put them upon the track ; when they jump instantly and correctly to results. Straws show them which way the wind blows. Discoverers have this gift, and with it this organ large. It scents truth as the hound does the fox, and *apprehends* it, not by labored ratiocination, nor induction, nor deduction, but by intellectual inspiration and intuitive discernment. We have seen man's need and possession of spiritual intuition ;²¹⁴ he equally needs intellectual inspiration, some window to his mind opening out above towards all truth, through which it may enter his understanding to expand and feed his soul. We say without fear of contradiction that all who possess this capacity or organ in whatever degree will be found to possess the other in a like degree. Let *facts* attest. Moreover

IT ADAPTS THINGS SAID to the occasion. To say and do this here is proper, that there improper, and this Faculty tells which is, and is not. This said this way has a magic effect ; this Faculty says it just right.

PHYSIOGNOMY IS A SCIENCE, though as yet undeveloped. In common with Phrenology, it rests on the same fundamental truth that shape, throughout all its details, indicates character ; yet Phrenology

has been reduced to a science by *observation*, long continued and multiplied in many persons; while Physiognomy has not. Neither Lavater, nor any of his successors who have written on this subject, have shown either *what* specific facial signs signify what traits of character, *and given proof from facts*, or shown *why* this sign should or does signify this trait, and that that. The absence of all *scientific evidence* in even the last physiognomical work published with so much flourish, is significant of its utter want of all *inductive* evidence. It is chiefly a rehash of previous authors, without credit. This work contains some veritable physiognomical discoveries, original with myself, and gives their proofs, which that work copies without one hint as to their source; and plagiarism is no virtue. I never yet knew my physiognomical sign of consumption,⁸⁰ or dyspepsia,⁹⁰ or a good or poor heart,¹³¹ or Firmness,¹⁹¹ Mirth,²³⁶ or Thrift,¹⁶³ at fault; still where one has the *organ* of Firmness in the head for his guide, why be guided by its secondary sign in the face, except when the face is and head is not observable? and thus of the other organs. Why scan a person's *shadow* instead of the person *direct*? Phrenology gives the *fountain head* of character; and yet physiognomy, if it were reduced by extensive observation to an inductive science, can indeed aid in deciphering the *status* and *directions* of particular Faculties, and be made a good *auxiliary* to Phrenology; but, in its present state of advancement, it is about useless practically. Nor have *any* of its practitioners any right now to be proud of their correctness. "*Guess again.*"

THE INCOMPLETENESS of all physiognomical predications is especially noteworthy. An expert in it can generally tell correctly from it that this man is smart, and that dull; or this cunning, that candid; this brave and that cowardly; this poetical and that common-place; yet none can give any *complete* view of any character *as a whole*, as can Phrenology, but only a "slap-dash" every now and then; and even this is derived from that *natural language*, which originates in the Phrenology, or else from those *organic* conditions unfolded by the Temperaments. Let those go by Physiognomy who will, but let me be guided by *Phrenology*. Still, I wish some strong-minded *thinker and looker*, not mere compiler, would reduce Physiognomy from existing chaos to something like scientific accuracy.

273.—DESCRIPTION, CULTIVATION, ETC., OF INTUITION.

LARGE.—Say and do just the right things at just the right times, and

in the very best possible manner, so that they take ; perceive and spell out indices of truths, characters, etc., correctly ; are truth-inspired, or have things come intuitively ; read men instinctively from their looks, conversation, manners, walk, tones, and other kindred signs of character ; may always trust first impressions ; are a natural physiognomist ; and with Urbanity large, know just when and how to take and hoodwink men ; with Secretion added, but Conscience moderate, are oily and palavering, and flatter victims ; serpent-like, salivate before swallowing ; with Comparison and organic quality large, dearly love to study human nature, practically and theoretically, and therefore mental philosophy, Phrenology, etc. ; with Love large, scan the opposite sex at first sight by intuition, etc. ; with Observation and Comparison large, notice all the little things they do, form correct estimates from them, and should follow first impressions respecting persons ; with full Secretion and large Kindness, know just how to take men, and possess much power over mind ; with Mirth and Beauty large, see faults and make much fun over them ; with Comparison large, have a talent for metaphysics, etc.

FULL.—Read character quite well from the face and external signs, yet are sometimes mistaken ; may generally follow first impressions safely ; love to study character ; with Beauty and Friendship large, appreciate the excellences of friends ; with Parental love large, of children ; with Force and Conscience large, all the faults of people ; and with only average Friendship, form few friendships, because detecting so many blemishes in others.

AVERAGE.—Have fair, yet not extra talents for reading men.

MODERATE.—Fail somewhat in discerning character ; occasionally form wrong conclusions concerning people ; should be more suspicious, and watch people closely, especially those minor signs of character dropped when off their guard ; make ill-timed remarks ; address people poorly ; often say and do things which have a different effect from that intended, etc.

SMALL.—Are easily imposed on ; think everybody tells the truth ; are too confiding ; fail in knowing where and how to take men, and know almost nothing about human nature.

TO CULTIVATE.—Scan closely all the actions of men, in order to ascertain their motives and mainsprings of action ; look with a sharp eye at man, woman, child, all you meet, as if you would read them through ; note particularly the expressions of the eye, as if you would imbibe what it signifies ; say to yourself, What faculty prompted this

expression and that action? drink in the general looks, attitude, natural language and manifestation of men, and yield yourself to the impressions naturally made on you; that is, study human nature both as a philosophy and a sentiment, or as if being impressed thereby; especially study Phrenology, for no study of human nature at all compares with it, and be more suspicious.

TO RESTRAIN.—Be less suspicious, and more confidential.

NO ELEMENT OF NATURE should be more assiduously improved, because none confers a capability more useful or delightful. To effect this culture, note all that every one you meet says and does. Nor notice merely, but also scan. Trace every word, every manifestation of character, up to the fountain from which it gushed. Ask yourself what prompted this motion, that expression, and yonder move on the checker-board of life? Look through conduct to *motives*. Ferret out disposition and character wherever you go. Form your judgment of men, and then inquire of yourself from what, in them, you deduced your conclusions? Note and spell out all the little things said and acted. Here especially “STRAWS show which way the wind blows.” Little things will often put you on the track of the entire character, and tell the hidden story effectually, because done unconsciously, whereas more important acts are guarded. The perpetrator of that horrible murder of a bank clerk, committed in Rochester, about 1844, in order to effect a robbery, was arrested as follows:—A citizen, in whom Observation, Comparison, and Intuition were very large, in passing the then yet unknown murderer, heard the latter order a carman to take his trunk to the railroad depot, with an oath in a harsh, peculiar manner, which arrested his attention. His Intuition and Comparison at once inquired what state of mind dictated the excited, imperative disposition manifested. The haste required could not have been caused by the near approach of the cars, and his whole manner indicated guilt, which suggested that this swearing youth might be the murderer. Thus reflecting, the citizen turned his steps to the depot, where he saw the luckless youth consulting stealthily and earnestly with his guilty participators in crime, which, with other confirmations of his suspicions, he communicated to by-standers, who of course narrowly scrutinized the murderous gang. The latter, seeing themselves thus closely eyed, took fright, and in attempting to flee and hide their booty, exposed and revealed the dreadful secret. Now it was the combined activity of these two neighboring Faculties which inferred, from the singular *manner* of the young villian, that he was guilty.

This detection was effected by *tracing out* a minor manifestation of mind to that state from which it sprung. All actions, all expressions, and even looks, have some prompter; and the great secret of discerning character is first to observe all that men say and do, and then to trace every manifestation out and up to its fountain head.

XLIII. URBANITY, OR "AGREEABLENESS."

274.—ITS DEFINITION, DESCRIPTION, LOCATION, ADAPTATION, AND CULTURE.

THE COMPLIMENTER—Address; politeness; courtesy; blandness; persuasiveness; pleasantness; complaisance; suaviter; palaver; good manners; etc.

ITS LOCATION is between Causality and Imitation, in front of the two lobes of Imitation. In proportion as it is large, it fills out the forehead at its upper and lateral parts, and gives a squareness, a right angle at the turn of the forehead, where it merges into the top of the head. Its location so near to Imitation and Kindness, and on the borders of Intellect, indicates that its office is important, and both intellectualizes and moralizes mankind.

ITS ADAPTATION is to society; man was made to intercommingle with his fellows. This would cause all his coarser asperities and rougher traits to obtrude upon one another unless something smoothed them off. All need Urbanity whenever they come into contact with mankind, however slightly. It prevents our making enemies, and greatly aids in making and keeping friends.

CONVERSE WITH MEN POLISHES. All persons proclaim about how much they have mingled in society by their finished or uncouth address. Courtesy is due from all, to all. The French are proverbial for it; and need it to smooth off some of their national peculiarities. Without it human communication would not be worth having, because every man would be an Ishmael, his hand against all, and all hands against him. It is a great instrument of the civilization of which it is an outgrowth. It is much larger relatively in women than in men, and is what chiefly constitutes the perfect lady, and the finished gentleman.

LARGE.—Are peculiarly winning and fascinating in manners and conversation, and delight even opponents; have a pleasing, persuasive, and conciliatory address; with Friendship and Kindness large, are generally liked; with Comparison and Intuition large, say unaccept-

able things in an acceptable manner, and sugar over expressions and actions.

FULL.—Are pleasing and persuasive in manner, and with Beauty large, polite and agreeable, except when the repelling Faculties are strongly excited ; with small Secretion, and strong Force, are generally pleasant, but when angry, sharp and blunt ; with large Kindness and Mirth, are good company, etc.

AVERAGE.—Are fairly pleasant in conversation and appearance, except when the selfish Faculties are excited, but are then repulsive.

MODERATE.—Rather lack the pleasant and persuasive, and should by all means cultivate them by smoothing over all said and done.

SMALL.—Say even pleasant things very unpleasantly, and fail sadly in winning the good graces of people.

TO CULTIVATE.—Kiss the blarney stone ; take lessons from “Sam Slick ;” try to *feel* agreeably, and express those feelings in as pleasant and bland a manner as possible ; study and practise politeness as both an art and a science ; compliment what in others you can find worthy, and render yourself just as acceptable as you can.

PART VI.

PHRENOLOGY APPLIED.

SECTION I.

THE TRUE EDUCATIONAL SYSTEM.

275.—DEFECTS OF EXISTING SCHOLASTIC METHODS.

MANY OF THE TEACHINGS of this all-glorious science of mind, intended, when the introduction of this work was penned, to be reserved for this part, have already been incorporated into its body, in connection with the presentation of those principles from which they are derived. This necessarily leaves this part short, and its points isolated from each other, though each depending from its parent phrenological tree. We begin with that application of Phrenology which naturally follows the last subject treated, the analysis and culture of the Intellectual Faculties. Part V. shows the vast practical importance of intellectual culture in general, and the means of improving each individual Faculty; but our subject demands that we state a few of the defects of the present educational modes, and then point out a system better calculated to develop this super-royal department of humanity.

THE PRESENT METHOD—it is utterly unworthy the name of system—is fundamentally defective, first in not being adapted to call out and evolve either the human mind as a whole, or its several powers in detail. Not that existing educators, collegiate and scholastic, are blamable for its faults, except for not learning from Phrenology, for they but perpetuate the educational methods handed down to them from the dark ages; but that, when this far better way is developed, they should inspect and adopt it. The palpable existing defects are—

1. IT RARELY INTERESTS, but generally nauseates, its pitiable victims. Mental discipline, the chief end sought, consists in that state of the intellectual organs in which a free flow of blood through them fits them for vigorous action. Does scholastic education effect this? Instead, does it not prevent it?

ONLY WHAT INTERESTS benefits; because that alone calls blood to, and thus disciplines the brain. What is there in A. B. C., in "baker, brewer, cider," which can possibly interest the juvenile mind? How exceedingly dull and stupefying this *union* of sitting still on a bench, and learning these dry meaningless forms of letters and spellings of words!

2. ITS SITTING is its first fundamental error. The brain cannot act vigorously when the body is sluggish. Physical action, perpetual and even violent, is wisely written into the juvenile constitution, and can be curtailed only to their life long damage. Yet sitting does thus curtail it, most effectually. School confinement is awful, to them, because so injurious. They must be dogged to school, except the few who are precocious, and whom study injures. Those who love to go, should not go, and all the rest hate to go, and are overjoyed at every intermission. Education should promote, certainly never prevent, their bodily activity.

3. IT VIOLATES MOST HEALTH PREREQUISITES. The ancients christened their schools "gymnasia," because their great educational motto was "a sound mind in a strong body;" and until modern education returns to this natural educational platform, it will do them more harm than good; or at least comparatively little good. Thus good speaking requires a good strong voice, and this good muscles, by means of which we utter sounds. Poor muscles make poor voices, and these imperfect speakers; while gymnastics strengthen the muscles, and thereby vocal clearness and power. Young ladies' seminaries are especially objectionable here. Yet, thanks to a phrenologist, Dr. Allen, of Lowell, Mass., a trustee of Amherst College, for first introducing gymnastics into the American collegiate course.

4. THE FOUL AIR of most school rooms caused by so many young breathers, has already been exposed,⁸⁹ and breaks down constitutions by millions. Monotony is the great scholastic incubus.

5. COLD FEET constitute another, yet its evils have also been shown. But to paint a tithe of their errors would detain us from

276.—THE TRUE EDUCATIONAL SYSTEM.

ADAPTABILITY TO EXCITE INTELLECT is the cardinal platform of all right education. That action alone develops and strengthens all functions, has already been proved.⁶⁴ The knowledge imparted is indeed something, but *mental discipline* is the *main* end of all education. What, and how much scholars learn is of small account in comparison with improving their future *capacities* to learn, which their *action* alone can effect. Action delights, and what delights gives action; whereas most scholastic studies do neither, but are as hard and dry as a seasoned oak-log. They are obliged to *force* action, and forced action is almost worthless. Only that disciplines which interests, and what interests alone disciplines, because it alone provokes that action which constitutes discipline; while enforced action is no action.

THE NATURAL FOOD of each Faculty provokes this required spontaneous exercise. All Faculties leap into action the instant their natural stimulant is presented. Praise electrifies Ambition, right Conscience, distress Kindness, children Parental Love, antagonism Force, objects Observation, facts Eventuality, explanations Causality, etc. Education, then, to be effective, must address itself at once to these primary mental Faculties; and whatever does stimulate them, disciplines them. Our analysis of each shows what will provoke it to that action which disciplines.

OBSERVATION is the pedestal, and vestibule of all education. We have already demonstrated the principle which underlies this inference.²⁴² *Sight* is the great instructor. *Seeing* is believing. What children see they know. *Object* teaching is the true educational basis. Teaching *things* interests and educates. How eager all youth are to *see*. Pestalozzi just hit the educational nail on the head. "Object teaching" embodies the true educational *principle and modus operandi*. Its general adoption would both revolutionize existing methods, and substitute the true educational base in place of present defective ones.

SPECIMENS are thus rendered the great teaching instrumentality and "*sine qua non*." They interest and instruct both children and adults beyond measure. Who ever visits a cabinet of "natural curiosities" without their awakening marked, even enthusiastic, interest? They provoke spontaneous action in nearly every single mental Faculty, and thereby discipline each. And the more they are examined, the more they interest, instruct, and discipline. But their

utility needs no praise, for their inherent interest is their own recommendation.

PROVIDING them is therefore the first educational step. And their variety admeasures their utility. What is all knowledge but a knowledge of them? In what does all science consist but in their exposition?

GOVERNMENT must make this provision; because it entails too great an outlay of means and effort for individual persons or new institutions to achieve by isolated action. They are required in every town and district in the land. To learn, we must first observe, and to do this, must have *things* to look at. Museums are very good as far as they go, but are scarce, and conducted more to gratify curiosity, than to foster science. Still, in the absence of any thing better, they are invaluable. Let all examine their specimens of Nature's works. But we require more, and something more complete.

EVERY TOWN should have its cabinet of beasts, birds, fish, reptiles, insects, and petrifications, as common property, and to which all should delight to contribute. There are specimens enough. They only require to be collected. Yet Government alone can do this effectually. Individuals can do something, yet Government could easily ransack air, earth, and water, the whole globe, and bring together the productions of all climes, at a much less cost than is expended in electing one president, or supporting an inefficient army and navy for a single year. Twenty millions would furnish every town with a splendid cabinet of animate and inanimate Nature, a specimen of every animal and mineral of importance on the globe, amply representing the sea and the dry land; open the bowels of the earth, and represent those animal races of former epochs now extinct, except as preserved in shape by the petrifying hand of time. Thus in the mines at Carbondale is any required quantity of that slate which overlays and underlays the coal, bearing the most delicate and perfect imprint of those vegetables by which these immense coal deposits were formed; piled up in masses throughout the mines; samples of which a few hundred dollars would put in every town in the land. All required to be done is to pile them on the cars and distribute them. How great a pity that we have no organization for securing and disseminating these easily procured specimens! Skeneateles lake is full of an extinct animal resembling an immense petrified grub, with which canal boats could be loaded at a trifling cost, and every school district supplied. They are most abundant in those parts of the lake where

gullies emptied fresh water into its bosom. Abundance of petrifications abound, and every mountaineer knows of some mineral deposit, where cartloads could easily be brought to light and scattered over the Union. The millions annually lavished on the army and navy, in times of peace, for doing almost nothing, could be made to institute a vast depot, to which all may send barrels of such specimens as are found in their vicinity, and from which receive in return an assortment of the mineralogy, geology, and animality of the globe, and with which towns and clubs could effect similar exchanges on the largest scale desired. Birds now shot by thousands, and thrown away, should be stuffed, and either sold, exchanged, or given to these public cabinets. School children could collect and label the mineralogical, botanical, and other specimens found in their vicinity, in order thereby to study these sciences, and to exchange the fruits of their labors for complete scientific cabinets and apparatus. The zeal and emulation in prosecuting the study of Nature thus excited, can hardly be imagined; and the strong fraternal bonds thus entwined all around and throughout society, would render all most happy. This system of mutual and governmental exchanges, would set the whole nation, all mankind, zealously at work to collect those specimens of Nature's productions now going to waste in all portions of the earth, and make all enthusiastic *students of Nature*. Government, instead of paying blustering politicians for electioneering gammon by fat government offices, perquisites, and contracts, should employ men of true scientific attainments and moral worth to search out, encourage, and bring forward deserving youth, now slumbering in obscurity because they lack the brazen face required to secure governmental patronage. Exploring expeditions could still farther facilitate such collections, and seamen be paid by Government for whatever specimens of shells, animals, minerals, skulls, and the like they might collect. Think you the face of the earth would not be gleaned, and even her bowels searched, in order to obtain scientific specimens and natural rarities? Government should employ competent artists to draw and engrave on steel, in the best possible manner, views of every important mountain, landscape, and city, on the globe; and then furnish cosmoramic views, if only through convex lens, in connection with each cabinet, so that children, by looking through them, could see a perfect representation of the geography and scenery of the whole earth. What if to get up a single engraving, say of London, Niagara Falls, or Chimborazo, should cost thousands of dollars; once done, it could be furnished on

this immense scale at a trifling expense. This course would also save the expense of maps for individual scholars, and leave the money now spent for them to be appropriated to infinitely better advantage. Let each nation draw its own landscapes, and then interchange with others, and supply all their schools, with fac similes of the aspect of every picturesque and important scenery and place on earth. Teach geography by these and kindred means, and all children would long for "school time" to come, so that they might partake of another intellectual feast, instead of playing truant, or having to be whipped to school. Government should also furnish a magnificent globe to every school district, having raised representations of mountains and cities, the mountainous framework of the earth included, and depressed imitations of valleys, lakes, and seas. Should get up geographical gardens at great central points, of many acres, representing the mountains, streams, lakes, cities, animals, and productions of all Nature, the tropical in green-houses, so that a few days' observation would indelibly rivet on their susceptible minds a hundred fold more geographical knowledge than any one man now knows; and lay all Nature under contribution to furnish educational facilities to every child and citizen. The millions squandered yearly on warlike preparations, thus expended, would educate the entire population better than any college graduate is now educated, "without cost to them;" besides increasing ten-fold the defence of the country by making the people *love* it. Did a standing army achieve our independence? No, but *volunteers*. Pursue the course here pointed out, and every citizen would love his country as his life, because it loved him and his children, and would fight to desperation and death in its defence. You need not then wait for the impressing "draft," but soldiers would rush in from every valley, and mountain, and corner eager to assert her rights. An army could thus be gathered in a week sufficient to conquer all arrayed against us.

THE TRUE ENDS OF GOVERNMENT are now entirely misapprehended and neglected. It should furnish these and kindred *educational facilities*, instead of enacting, only to "expunge," tariffs, sub-treasures, bankrupt laws, charter banks, create monopolies, and the like. Private expresses could transport the mail ten times as well as Government, and at a quarter the expense. Leave the currency to itself, and the people will take only what is good. The tariff is "insignificant" compared with public education. Criminal jurisprudence is now begun at the wrong end, by being based in fear, whereas it

should be founded in love. Its motto should be, "An ounce of prevention is worth pounds of cure." Pursuing the system of intellectual education urged in this volume, and of moral training pointed out in the succeeding, would banish ignorance and crime. Let Government both seek out and educate all poor children, and patronize talents and worth, instead of demagogues, and it will elevate all above that cheating, robbing, money-grabbing capacity which now constitutes the main-spring of crime. Would not the doctrines of these volumes, if applied in practice, reduce our criminal calendars, to almost nothing, empty our prisons, and almost obviate vice? Government should be *parental*, instead of inexorable. Let her care for the people, and the people will love their great benefactor as they love their children, and because it cares for them, and in addition, a love of the refining and soul-purifying study of NATURE would be inculcated, than which few things more effectually wean from vice and promote virtue.

FEMALE TEACHERS AND PUBLIC LECTURERS should use these cabinets, which should be placed in large lecture rooms.²⁷⁷ Woman is the natural tutor of children. Her nature fits her for developing their minds quite as much as for nursing their bodies. Men may teach juveniles in their teens, but females should teach them up to their thirteenth year at least; and mothers make far better teachers than maidens, because maternal love inspires them with that interest in their advancement so essential to success. She should teach them mainly by *talking* to them instead of from books. Let her take a flock of these dear creatures into one of these cabinets, and give them practical lectures from these specimens; take to-day the crane, and after telling them all about its habits, how and where it procures its food, builds its nest, and the like, show how admirably it is fitted, by its long limbs, to wade in water, and stand till fish, snakes, frogs, and the like, swim along carelessly near it, so that by means of its long neck, it can dart its bill into them and thus secure its prey and feed its young. To-morrow let her take up some other bird, and next year, the finny tribe, and the year after, butterflies and insects, and thus of the fox, deer, moose, panther, bear, elephant, tiger, rhinoceros, and lion; thus teaching their pupils in turn, all about all Nature, animate and inanimate.

THIS METHOD of instruction would fully enlist those two most powerful teachers of the juvenile mind, the eye and ear; rivet their eyes, and thus their intellects, in harmony with that great law of

mind, that what they SEE they remember.²⁴² It would also employ that conversational method of conveying instruction so efficacious.²⁷⁷ Say, reader, does it not harmonize perfectly with the laws of mind? And is it not infinitely superior to this "sitting-on-a-bench" system? Would it not excite and develop mind more in one week than the present does in years? I rest these views on the common sense of all, and plead for their general adoption. And as there is little prospect that Government will furnish these facilities, cannot some system of concerted and general action be devised for carrying out this evidently correct and only effectual means of educating mind?

HISTORY, both local and general, should also be taught. Thus in teaching them the geography of any nation or place, tell them also all that is known concerning the history, habits, modes of living, customs, laws, governments, and peculiarities of their inhabitants. This will give them enlarged views of the true nature of man. Such knowledge of the practical workings of human nature would disclose many excellent customs and practices in savage and half-civilized life, and also expose many that are injurious, and thus lead our youth to reflect upon what habits and customs contribute most to human happiness, as well as general reform and progression. This would furnish a most excellent discipline of Eventuality. These cabinets should also contain drawings, casts and skulls of national heads, so that their Phrenology could be compared with their characters. This would also show what effects different climates have on character, as well as the effects of mountainous and level districts, and much more of a kindred nature.

EVERY INDIVIDUAL should devote a portion of each day to mental culture. Let laborers be paid more wages for less work, and allowed and induced to visit these cabinets and learn something new daily, as well as store their minds with materials for thought while at work. Especially should woman, married and single, resort to them and study, instead of wasting time at the toilet and over extra sewing. Young women should thus study Nature as a means of preparing themselves for those educational duties which await them when they obtain the "chief end" of woman's desire; and mothers should frequent them both to learn for the mere advantages of knowledge, and that they may teach their children, as well as endow offspring before their birth,⁶¹² which is explained in "Sexual Science," Part VIII., on "MATERNITY."

A COLLEGIATE EDUCATION, as now conducted, is not worth its cost. The lives and practice of all professional men attest that it ties

graduates down with the shackles of antiquity, and thus chains society to the past, instead of "pressing forward" in the road of progression. Few college graduates become imbued with a truly scientific spirit, and an independent love of all truth, but almost all refuse to examine any new subject not found in their musty books. They make few important discoveries. These emanate from working men mainly. As Bacon's "Principia" knocked forty years for admission into the "seats of learning," as Galileo was imprisoned by the pseudo learned, and as Harvey's Discoveries encountered their principal opposition from these same collegiate wiseacres, so Phrenology has been opposed mainly by the professions, and admitted much more readily by the common sense mass than by learned bigotry. The latter too often refuse even to examine its claims, and furnish by far its most inveterate skeptics. Ministers who have not gone through college, are more open to conviction, less bigoted in opinion, and more ready to admit new truths, as well as more reformatory, than collegiates. Doctors, too, are behind the age, and lawyers tied down to ancient precedents, and too often blinded by prejudice. Do collegiates evince that love of scientific truth which should always characterize the student of Nature?

THERE ARE EXCEPTIONS. Hitchcock was one. Amherst College will not thus trammel your minds or bind you in the strait-jacket of antiquity. Its cabinet, apparatus, and manikin are also valuable, and its President will inspire you with a love of Nature—the great basis of all education. Manual labor institutions have my unqualified approbation. They vastly facilitate mental action by physical exercise, and do not hamper with antiquated dogmas.

ASSOCIATION furnishes a powerful auxiliary to memory. Thus, seeing a place in which certain events transpired, recalls what transpired there. We naturally associate the face of a friend or enemy with what they have done, so that recalling either brings up the other also. Hence, when Eventuality, or any other Faculty is weak, its practical efficiency can be greatly strengthened, by associating its function with one more vigorous, so that their action shall call up the thing to be remembered.

MNEMONICS are partially based in this principle, yet are too far removed from that natural association or conjoint action of different Faculties just recommended. They attempt to obviate that exercise of natural memory which this entire work enjoins. When art can excel Nature, and human invention out-do divine, mnemonics may be

of service, but the memory created by God exceeds any system founded on art. As far as it taxes natural memory, the more the better ; but the more it relieves it by obviating its requisition for action, the more it weakens.

AGRICULTURE should also be studied. Vegetation has its laws and conditions, by fulfilling which it can be vastly augmented. The application of chemistry and science to enhancing the productiveness of the earth, is full of interest, as well as laden with practical benefits.

THE WEATHER may also be studied with profit, and predicted with accuracy for weeks, if not seasons beforehand. Animals do this. Then why not man ? The spider anticipates approaching changes, and shapes her web accordingly, before man discovers them. The beaver builds his hut one story higher the fall preceding a wet spring. The squirrel lays in an extra supply of nuts the fall before a severe and protracted winter. Many other animals prognosticate the weather in like manner, yet this knowledge is certainly more important to man, in order that he may put in crops adapted to wet, dry, cold, warm, and other prospective seasons, and sow early or late, and plant deep or shallow accordingly. Does a merciful God, after having done so much more for man than brute, furnish this important knowledge to animals, yet deny it to their natural lord ? True the former prognosticate by instinct, only the intuitive or natural action of their Faculties, yet man's, if duly cultivated, would be as much more keen and sure than theirs, as he is their superior ; besides all the aid he can derive from reason. The weather, like everything else, is governed by fixed laws, which are within human cognizance. The equinoctial storm is a correct type of all the storms of the next six months. As it clears off, will they also clear. Abundant rain then insures a wet season, and the reverse ; and so of wind. "Cold snaps" will continue about three days, the first cold, the second very severe, and the third least so ; and thus of spring and fall frosts. A similar principle doubtless governs seasons, probably eras. These weather-signs are instanced, not for their own sake, as much as to show that such signs exist, and to encourage the study of this department of Nature.

ASTRONOMY should also be studied by both juveniles and adults. It is not so difficult or abstruse as to prevent its being generally understood. The right kind of illustrations and instruction would enable all to understand and observe its rudiments and constellations, the motions of the planetary system, its distances, and its leading facts

and principles; as well as to predicate the time of day or night from the positions of the heavenly bodies. This many elderly people do, without ever having studied this subject a single hour, but merely from desultory observation. What exalted attainments are then within our reach provided this study is begun early, prosecuted vigorously through life, and facilitated by astronomical globes, drawings, instruments, and competent teachers? Would not the study of the starry heavens also awaken thrilling emotions of the sublime and infinite? The loud pealing thunder, the forked lightning, the gorgeous drapery of the twilight sky, the pouring rain and driving hail and snow, the northern lights shining, rushing, roaring over our heads, the star spangled canopy of heaven in a cloudless night, the immensity of space stretched out above, below, and all around, are directly calculated to inspire the soul with awe and adoration of that Infinite Being who created all things.²⁰⁷ Who can contemplate these manifestations of power and infinitude without bowing "before Jehovah's awful throne," in devout homage?

ANATOMY AND PHYSIOLOGY should also be studied by adults and taught to children, yet never separated. The functions of all the organs, and the various ends in the animal economy they subserve, should be studied in connection with their shape, structure, and location; because each will facilitate the other. Hence the value of that great modern invention, the "manikin." It obviates all the offensiveness of the dissecting room, yet enables all to see a correct representation of all the parts and organs of the human body. It especially enables *mothers* to learn the wonders of anatomy in order to teach them to their children, put their fingers on your pulse, and increase their delight and astonishment by explaining the whole process of the circulation, and showing them from the manikin the heart, arteries, and veins, by which it is effected. Still farther exemplify your subject by dissecting those domestic animals slaughtered for your own use, or that of others. Ask them what becomes of the great amount of food they consume? Explain the office of the stomach, along with its shape and position, together with the whole process of digestion and nutrition. Show them how a sour stomach is produced, by eating more food than the stomach digests. What will delight or benefit them more than anatomical and physiological knowledge? Or what knowledge is more important than that of the laws of life and conditions of health? It will teach them to preserve health and prolong life, than which the knowledge now acquired at

school is as a mere drop in the bucket. Put their fingers on the spine, and show them the working of its joints as we bend backwards, forwards, and sideways. Explain that these motions are effected by means of muscles, which constitute the red meat of animals. Show how the joints fit in and work on to each other. Clench your fist, and show the hardness occasioned by the contraction of the muscles and stretching of the tendons; and exemplify the same by lifting, walking, chewing, and other muscular exertions. Exhibit the brain and nerves; show their structure, and explain their uses, and illustrate by showing them the brains of animals. Pursue this course with children, and when grown up, every man and woman would know ten times more about these subjects than physicians, and in consequence live twice as long and thrice as happily as now, besides enjoying uninterrupted health through life.

THE STUDY OF PHRENOLOGY furnishes the very best of all means of disciplining the mind, as well as elevating the moral tone and standard. No study, no exercise of intellect, is equally delightful or instructive. Nothing equally calls out and rouses to their highest pitch of healthy tension, nearly every intellectual Faculty. It renders all its pupils inveterate lookers; stimulates Form to note and remember both the various shapes of the several organs, and those forms of body and face which indicate and accompany given traits of character. It calls upon Size to measure the relative and absolute dimensions of the brain in general, and of each organ in particular. It also employs Weight in applying touch to the various organs, examining the density of the physiological structure and texture, and the like. It keeps Order busily employed in marshalling the various points of character in the order of their respective influences on the conduct, and in systematizing all observations and investigations. It calls Locality into the most vigorous action, as already seen. It especially requires and promotes the action and consequent discipline of Eventuality in remembering the respective functions of the various faculties and their influences on character. It also furnishes delightful and perpetual employment to Language in describing character, and in discoursing on its facts, beauties, and principles. Few things furnish more or better material for conversation, as all who have heard lectures on this science or studied it, will bear ample testimony. It requires the incessant and concentrated action of Comparison to compound the various Faculties in those perpetually changing combinations in which they occur in different individuals, no two of whom

are alike. The Author has graduated with more than medium honor, but never knew what it was to begin to THINK till he commenced his profession. A thousand times, while studying out the products of different combinations, it has seemed as though his brain was drawn up to a pitch of tension ready to break down, under the required pressure. Testify, ye students of this vast science, has it not often so taxed your intellectual organs as to cause pain in your forehead? And surely, if any science excites Causality by presenting the highest order of laws and subjects for investigation, Phrenology is that science. Take this very work as an example of the perpetual round of THOUGHT suggested by Phrenology. I speak not of the authorship, but of that SUBJECT MATTER furnished by this science. All phrenological works abound in thought. Take "Combe on the Constitution of Man," as an example. In short, no other study equally delights or excites and therefore strengthens the intellect and quickens every element of mind.

ITS LESSONS OF HUMANITY constitute its crowning excellence. How it exalts and expands the mind; unravels the whole web of the human constitution; develops those laws in harmony with which God created this highest effort of Divine power; unlocks and reveals its hitherto hidden mysteries, and opens the window of science into its profound depths and god-like capabilities; discloses the laws of human mentality, and thereby shows us how we must live in order to be happy; and by the violations of what laws our evils and sufferings, collective and personal, are occasioned; teaches universal truth, virtue, and philanthropy; imbues with an all-pervading desire to reform and perfect man; teaches us our faults and how to obviate them, our virtues and how to cultivate them; shows us ourselves as others see us; is our spy-glass for discerning the characters of our fellow-men, and reduces his study almost from guess-work to scientific certainty; and enables us to look right through all we meet. Study this science, ye who would acquire the very highest order of mental discipline, and learn the most numerous, the most delightful, the most practically useful lessons man can learn.

STUDY NATURE AS A WHOLE. She is not divided and sub-divided into sections and patches. Astronomy is not one thing, mathematics another, mechanics, natural history, chemistry, anatomy, phrenology, and each so called science another; but all are different parts of the same stupendous whole. Has Nature thus divided up her works? All her operations blend into one another, like the colors of the prism.

Thus, chemistry and organic chemistry are one, and the latter blends with and goes to form every species of organization, so that chemistry and organization are virtually one. Chemistry and Physiology are substantially one, and magnetism combined with organic chemistry, sets in motion the vital laboratory of all that lives: nor ceases here, but keeps all worlds and all that moves in perpetual revolution, as well as furnishes them all with the elementary principle of all action, from insects to a universe of worlds. Magnetism forms the grand instrumentality of all human and animal motion, by means of its attracting and repelling powers.²⁴⁸ Thus, hydrostatic, mechanical, electrical, galvanic, astronomical, chemical and philosophical sciences become merged into two elementary principles of matter, its magnetic and chemical affinities, both of which are doubtless one. And what is geography—the rivers, mountains, volcanoes, climates, and changes of the earth—but the ever-varying products of the same prolific principle? Then why not study them together, since they stand thus inter-related by nature? So, too, the study of human anatomy involves comparative. The same general features pervade both, yet vary according to the habits of various animals. Nature has classified all her works, but not separated them. We view them in ranges, but should not limit our visions to one or two departments. Would that men could comprehend this doctrine of universality or illimitable range, scope, and extension which pervades all Nature. How rapidly could we learn therefrom? How vast, how infinite the field of universal truth it unlocks! Let every reader prosecute daily, energetically, and through life, the study of *universal* Nature.

277.—SPEECH vs. TEXT BOOKS AS AN EDUCATOR.

TONGUE AND EARS were made before books, and immeasurably excel them as media for imparting and receiving knowledge; especially in the young. To prove this to be Nature's fundamental educational system is unnecessary, for it is self-evident, and proved by universal human experience. Mankind has four natural educators: business, reading, preaching, and lecturing, which resolve themselves into only two, speech and letters; of which speech is primal because natural, letters artificial. Indians and the uncivilized perpetuate their histories by oral communications, and delight to "tell stories" around their camp fires. Speech is Nature's paramount juvenile educator, throughout all times, and in all things.

LECTURING is one of its phases, and only conversation extended

from a few to many hearers, and as now employed in lyceum lectures and public readings, is a great moulder of public opinion, and inspirer to action. We have already virtually expounded this principle under "eloquence."²⁶⁶ The political canvass, and all speech-making on all subjects in legislation, public and private dinners, debating clubs, temperance lectures, preaching, exhortations, prayer meetings, and thousands of like things, are but its several applications of this great educational principle. Then why not make it the chief educational instrumentality? Is it thus efficacious in all *else*, but *not* in imparting instruction to the young? Is it not far better *adapted* to youth than to adults?

FACTS attest that nothing interests them equally with stories. Children who cannot be induced to give any attention to books often evince the utmost fervor and eagerness in listening to stories. That benefits which interests, because it calls blood to the organs exercised. Words *with* tones, looks, gestures, and all their vocal concomitants of speech are immeasurably more impressive than written words alone. Then why not employ them almost exclusively in juvenile education? The almost insane interest of even little tottlers in "mother goose's" stories enforces this point.

SPEECH AND SIGHT UNITED constitute by far the best of all known means of imparting knowledge. We have already shown how eager all children are to see, and how much more impressive is sight than books.²⁴² How most impressive is sight alone? is speech alone? Then what else bears any comparison in impressiveness with both *together*! This *fact* is apparent, and its rationale perfectly obvious. Let youth be *shown* things, and then *told* all about them in a fascinating way, and they will learn more in an hour than from a whole week's book study.

TEXT BOOKS are rendered secondary, and merely adjunctive, by this palpable principle. They should follow lecturing, and be used in recitations, chiefly to see whether pupils have caught and remember the oral lecture, but be merely an appended aid. Teachers, parents, these fundamental educational principles cannot possibly be contravened.

LECTURING PLACES of course become requisite. School rooms generally furnish them, yet are now adapted chiefly to class recitations; still are easily convertible into lecture rooms by removing seats and desks.

EDUCATE CHILDREN STANDING, not sitting. They are constituted

to be on foot most of their time; while sitting violates nearly every physiological law of growth. Elders may sit much, but juniors next to none. Motion is life to children, and delightful; sitting, death, and most irksome. A little four year old girl on my knee, when asked what she did, replied :

“I go to school, sit still on a bench, and say A.”

STANDING, practised only a little, becomes much easier than sitting, especially if the heels are set a few inches apart, feet spread, thus forming a double brace, and posture upright. A school lecture should not continue over thirty minutes, which all children could endure, especially if allowed to move a little; whereas obliging them to sit still is both barbarous and murderous. A small room will thus hold a great many standing.

ADVANCED SCHOLARS could thus be made the talking teachers of their juniors. This would also allow that question asking and answering instinct already shown to be so beneficial.²⁶⁹

TOWN HOUSES should be built in every town centre, capable of holding half its population, well fitted and lighted; and either free to public lecturers or a bonus paid them; and town “overseers” should provide good lectures on all sorts of subjects, so as to call our young men in from billiard saloons, grogeries, gambling “hells,” and places even worse, to learn something useful, and they persuaded to invite young ladies to accompany them; thereby both refining and instructing them together. Young men should and will have female society of some sort; and supplying them with good will keep them from bad.⁴³⁹⁻⁴⁴² Theatricals are too expensive. Young men must lay up something daily, but taking a lady friend to the theatre costs a week’s savings. Nothing on earth refines and elevates humanity equally with the *union* of intellectual culture *along with* the social affections—a truth men will some day appreciate.

INTELLIGENCE ALONE SUSTAINS REPUBLICS; bayonets, thrones. Where the majority rule, both the majority and minority must be educated, or anarchy worse than despotism must inevitably ensue. Republicanism without general education must needs become demagoguism. Knavish politicians will hoodwink ignoramuses. Monarchy, with ignorance, is preferable to Republicanism, without education, which becomes rowdyism. Neither persons nor peoples can govern themselves without knowledge generally disseminated. Our nation may yet become sufficiently educated to navigate this republican bark

upon the broad ocean of humanity, but is not yet. Every administration degenerates. Our politics are so corrupt, that the most unscrupulous politicians succeed the best. Worth, so far from being a passport to office, is its inseparable barrier. A strictly honest politician is a seven years' wonder. Washington, if alive, would be immolated on the altar of party. In most of our cities the rabble rule. A congressman heads a mob to destroy an outspoken press! O my country! on what art thou verging? On that worst form of tyranny, ruffianly demagoguism.

THIS IS TRUE, call me what you like for saying it. General education alone can save us; but this can. Let all lovers of republicanism and of man arise, and apply it before the sceptre passes from our hands. The ignorant should be denied the sacred ballot. Only knowledge and virtue should ever vote. Our republic should render general education compulsory, by refusing the ballot to all who cannot read, write, and govern their passions, treating the ignorant as minors.

GOVERNMENT SHOULD INSTRUCT ALL GRATIS. All governments should pay their funds chiefly to what perpetuates them. Monarchies, kept alive by bayonets, should pay their money mainly to soldiers; but since our republic stands only in the intelligence and virtue of the people, it should pay out its funds chiefly in promoting education. Out upon those cities which, like Detroit, charge a *licence* for *scientific lectures*, whereas all *should* pay them a bonus, not charge a *hundred dollars* per night for a cold hall! Instead, let every city, village, and town have an attractive public room, large enough to hold "all the people in the region round about," pay public lecturers as well as teachers; fitted out with apparatus for illustrating their respective sciences, one with anatomical manikin, models, and drawings; another with a superb phrenological outfit of animal and human skulls and drawings; others with apparatus needed for illustrating chemistry, natural history, conchology, chronology, astronomy, natural philosophy, mathematics, navigation, engineering, mechanics, the useful arts, etc.; employ no ten dollar per month men, but the most gifted to be found, and let all youth understand that those most competent can obtain like positions, and what an all-potent means of both educating the entire people, and calling out that vast amount of literary talent now rusting with inertia. Catholicism wisely perpetuates itself by hunting out all her *smart* boys and putting them into the priesthood. Let the republic follow this most admirable plan.

COUNTIES AND STATES should employ this general lecturing plan

for advanced scholars, either superseding colleges, or else making them their satellites. They should construct an immense lecture room, capable of holding its tens of thousands, and employ the most gifted professors, who should prepare themselves by the most minute acquaintance with their subject, give a lecture as perfect in matter and delivery as is possible, adapted and *free to all*, males and females, and furnished with cheap dormitories and restaurants, so that as perfect an education as possible could be furnished at a trifling cost to Government, none to scholars. A lecturer could be heard by ten thousand, and give two or more lectures per day. How much would *that* cost per hearer? A sum too small to be reckoned. A prime education could thus be made "dirt cheap," and all the youth of the land grow up better educated than any savans now are.

MONSTER PUBLIC GATHERINGS AND AUDITORIUMS would be necessary to this plan, and will become more and more public necessities as population increases, for "world's jubilees," conventions, etc., etc. Large auditoriums are usually inaudible. Very few lecture rooms are fit to speak in. The audition of St. Peter's, in Rome, is horrible; whereas that of a monster room, constructed on Nature's acoustic principles, would be as perfect as that of small ones. All recesses, domes, and projections in all halls and churches cause vocal reverberations and echoes, because they catch and throw back the speaker's voice from a part, but not the whole, causing one sound to conflict with another.

SMOOTH WALLS GIVE PERFECT AUDITION. The egg shape probably gives the true acoustic form; though the cylindrical is good. The audition of the Old Tabernacle at Salt Lake is almost perfect. Though it will seat four thousand comfortably, yet every lisp can be distinctly heard through every part, except a slight reverberation heard only at the desk, caused by the voice striking against a flat wall at its farther end, and rebounding, which a canvass on that end would prevent, as would also a tapering end. It is shaped inside like half an egg shell, except at its farther end, the desk standing near the top of the rounding end. I had long preached that shape before I had a chance, as there, to test it practically.

A PERFECT AUDITORIUM, capable of allowing fifty, and probably a hundred thousand auditors to hear every lisp, can be constructed on the following acoustic principle. All know that sound is conveyed so that speaking can be heard through a straight tube with perfect distinctness any distance, without diminution of volume or audition by distance. Of course this identical principle appertains equally to

all large tubes, and hence to a tubular hall. Yet a half cylinder tube is just as good as a whole. It conveys sound perfectly, mainly because it is *smooth*. A smooth octagon, pentagon, duodecagon, etc., would do about equally well, corners alone intercepting sound. Now make a long, half cylinder; put the speaker's desk in its focus, so that the whole of each sound shall *start together*; make it a hundred feet wide and even more; let it enlarge gradually for fifty or a hundred or more feet; then gradually contract; that is, be shaped like the inside of half an egg shell; be cylindrical overhead; its seats gradually rising as it goes back and towards each side; all its windows and doors even with its walls; well ventilated with ceiling registers, and allowing four square feet for each person, we have seventy-five thousand auditors for every thousand yards in length.

THIS EGG SHAPE has two advantages. 1. It allows a gradual expansion of the speaker's voice till the desired width of hall is obtained, which can be heard a long way. 2. From about its first third or middle it should contract gradually, so as to compress the now partially spent speaker's voice, to keep up its distinctness, and have no square surface in its rear to catch and send back the voice. The audition of its very apex must needs be perfect. And this arching form overhead would allow its dispensing with pillars. If I had the means—and its construction need not be expensive—I would “invest” in making one just to show mankind how perfectly every one of a hundred thousand audience could hear every word, tone, and lisp of the speaker.

GOVERNMENT, state and general, however, is the one to get up such buildings. Then attach to each a magnificent cabinet of natural specimens as above described,²⁷⁶ along with a perfect philosophical and astronomical apparatus, and its desk filled with the ablest and best speakers in this and every other land, and all the youth required to attend a prescribed course, joined by all the adults who chose to go, and we should have a country as exalted, intellectually and morally, as it now is extended in domain. I do not mean to die till I see some such educational “plank” put into the “platform” of some political party. And this “working men's party” is its true place.

FELLOW COUNTRYMEN, we have the *basis* requisite for a country great and glorious, as far beyond the utmost stretch of human imagination as we now surpass the wildest visions of our revolutionary deliverers. Let all strike hands in generous emulation to improve our all-glorious institutions.

SECTION II.

CHEAP AND GOOD HOMES, AND CISTERNS; AND THE GRAVEL WALL MATERIAL, AND OCTAGON FORM OF HOUSES.

278.—GRAVEL AND LIME *vs.* WOOD AND BRICK.

A GOOD HOME is so great a life necessity and luxury, that all should treat themselves to as comfortable a one as possible. Yet about nothing do men show as little common sense as in domiciliary construction. We propose to show how homes can be made as good and cheap again as they now are. In "getting up" a home, its

LOCATION is FIRST, because its utility and salubrity depend greatly on *where* it is. Look your ground all over for a good "site," and adapt it to both your ground, and your special requirements.

HIGH GROUND is much better than low; because all miasmas *settle* into hollows. Hence remove them as far as possible from swamps and marshes; the more so since they breed that great home pest, mosquitoes.

THE SOUTHERN SIDE of all rivers and low grounds, and of course their west and south-west sides, are immeasurably better than their east and north-east sides; because hot weather generates both malaria, and also south-west winds, which therefore sweep this malaria *from* your houses; yet *to* those built on the north-east side of rivers and swamps.

BARNs, DRAINs, AND OUT buildings for a like reason, should always be to the north-east of all houses; but never to their south-west. North-west will do.

BUILDING MATERIAL comes next; but *eschew wood*, because it is, 1, always rotting all over; 2, needs painting every few years; 3, is hot by day but cold by night; sweltering when you retire, but chilly towards morning, and liable to sudden extreme changes with the weather; as well as roasting summers, yet freezing winters; 4, liable to burn down with all its valuables, almost before you can get out of it—Chicago was a wooden city; 5, requires the highest priced labor to build and repair; 6, is the most expensive for its value; 7, and must soon become too scarce and high because so far to bring timber, and land wanted to raise food.

BRICK is better, yet expensive, and damp unless furrowed, and

requires high priced workmen. A nobleman, giving out that he was about to do some great thing by way of improving the old family mansion, after spending untold sums on plans and artisans, chose bricks, and the Elizabethan style, mostly roofs and corners, and when altered and finished to his liking, invited a friendly nobleman to give his opinion, who replied: "Well, *very* well done for a *mud* house."

DOBY composite brick, etc., may yet be made good, but

GRAVEL materials and lime are far better than either, because they are, 1, four times cheaper, and as good again as any other material, and eight times as valuable; 2, can generally be had for the drawing, except lime, which abounds; 3, maintains an even temperature summer and winter, mornings, noons, and nights; 4, is fire-proof, vermin-proof, and frost-proof; 5, can be put up mostly by the commonest labor, and every one his own architect; 6, is soundless—in many open Southern houses every body can hear through all ceilings what every body is saying and doing anywhere about the whole house above and below, and stud walls sound more or less; 7, grows harder with age; 8, can be made to resemble a stone mansion, which it is; and 9, has many other advantages, without one single disadvantage. I speak knowingly, from having myself built the finest looking mansion in N. Y. State, or any other, in the distance, and it has stood perfectly now twenty-five years, was harder than brick walls twenty years ago, and grows still harder yet; stands perfectly even above the balustrade, where wholly exposed to the weather, and its walls will last forever.

WHEN SHERMAN was sweeping through Alabama, his enemies turned a house built on this plan into a fort, because it stopped bullets; and when finally destroyed, its walls, instead of crumbling like brick walls in falling, remained in great broad-side masses, with only now and then one crack, but solid. A sledge hammer will scarcely break one.

ITS CHIEF BULK can be composed of almost anything petreous or hard. I used the stones and chips made in digging off the top of the rocky ledge on which mine was built, thus saving carting them off, and hauling others. They were of all sizes, from small thin flakes and crumbles to stones as large as the wall would hold. The gravel stones and sand dug from a gravel ridge, or thrown out of a gravelly cellar; the dross and clinkers or slag made in furnaces; beach sand and stones; those stones dug out of any ledges anywhere in the Mississippi Valley and Rocky Mountains; the chippings of marble yards; and waste stones from quarries now wasted; anything

hard, to which lime will adhere, will do for four-fifths to nine-tenths of this material, the balance being lime. Of course all limestone, slatestone, granite, puddingstone broken up, and even oyster shells, and blacksmith's dross will answer. Whatever is of this general description answers.

OYSTER SHELLS will do for the entire wall, by burning one-tenth to make lime, and pounding up the balance in place of stones. Brick-bats, a part pounded to give tact, and the rest used as they are thrown out of kilns, or partly crumbled by fires.

LIME, slacked, constitutes the balance. I used air-slacked lime, made for farmers' use, and costing at first four, then five cents per heaped bushel; in the proportion of one bushel of air-slacked lime, *after* the slacking, to about six or eight parts of the material above described, and found it abundant. I took four fifty-bushel loads, or ten dollars' worth for a wall 1 foot thick, 12 feet high, and 256 long, and it stands perfectly = 3,172 square feet, or enough to build any ordinary house; and *put* it up into wall for \$74 *worth of labor*, and in $7\frac{1}{2}$ working days!—as cheap as the poorest could expect. Only experiment could convince one how cheaply it can be made, and how good it is, when made; though much depends on how economically it is handled.

I PROCEED thus: 1. I wet my lime, making it about the thickness of cream, by adding water, in a mortar bed. 2. Added coarse sand enough to make it about the consistency of *bonneclapper*, or ordinary mortar. 3. Shovelled it into one corner. 4. Wheeled a barrow full of this coarse material into the opposite diagonal corner, and threw on it two shovels full of this coarse mortar, spreading it from the end of the shovel as it went on. 5. Repeated a barrow and two shovels full till the bed was full; with an occasional shovel full on the top. 6. I now began at the empty corner, where the mortar first lay, shovelled out a tub or barrow full, wet just enough to secure cohesion, but not so that the lime would run out; shovelled it over two or three times, and then into barrows for the wall, or tub for hoisting; wheeled it to the wall, and shovelled in, or hoisted with a horse; dumped it into a bed above; shovelled into a barrow, and out of barrow into wall; each shovelling and dumping working it more effectually. I had one Irishman to provide water, wheel in the lime and material, and help the bed shoveller to temper it, and add lime or material to bring it to the right consistency; the two filling barrow or tub; a boy to lead the hoisting horse; a dumper above to dump and fill barrow, and one to

wheel to the wall and shovel in, leaving one empty barrow to be filled while he emptied the other; and one standing in the wall with a spade to receive and place the material; thus *working* the material while getting it to and into the wall.

A CARPENTER to place the box-boards, window, and door frames, rig horses and scaffolds, etc., and a mason to polish, level, etc., completed my gang.

PLACING THE BOX-BOARDS is important. They must be kept straight and plumb, else the wall will be crooked. I made them of $1\frac{1}{2}$ inch boards, about a foot wide, and governed in length by that of the walls. They should be cleated and unseasoned to prevent warping; have a hole through their upper corner to hold a rope for lifting and holding them; be two, one on each side of the wall; though two *sets* are much the best, and three better yet; and held up by resting on the wall, on an inch square stick, longer than the wall is thick, setting into a notch in the under edge of these wall-boards, and prevented from spreading below by a notch in these cross sticks, and above by a lath nailed across their top to each board; and kept plumb thus: fasten a board $1\frac{1}{2}$ inch, or else a 2-inch scantling at all the *ends* and *corners* of proposed walls, and where inside or cross walls join. They may be run flush up into corners, or be anchored *across* them from one wall to the other. This last plan will leave a seeming pillar in corners which, if in each, would look well, and strengthen them, besides making excellent places for chimneys and ventilators; which can be easily made by drawing up a round stick, six or more inches through, three feet long, and slightly tapering, so that it will pull up easily. Pack mortar closely around it, and draw it up as you rise, thus leaving a chimney hole behind. Chimney tops can be carried out without brick, by having a mould about three or four inches from this stick, shaped inside as you would have the outside of your chimney shaped, and then filling in between stick and mould with this grout, quite fine. This mould can be so made as to panel your chimneys, and give them any artificial touches you like. These wall-boards can also be arranged so as to panel your outside wall, make corners, columns, etc., fashioned any shape you prefer.

VENTILATORS from the bottoms and tops of all rooms can be made by smaller round sticks, two inches or less in diameter, and three feet long, even broom or hoe handles will make one large enough, drawn up these sticks as you build the wall, through its middle and out at its top. A little hole will carry off much foul air, which it will perpetually renew.

THESE UPRIGHT JOISTS we will call standards. They should be *outside* of your wall, not left in it; come away when it is done, and these horizontal box-boards nailed to, or resting on them, and held by cleats. If nailed, leave your nails half an inch out, so that they can be easily drawn, in hoisting your boards. Two sets are desirable, filling the upper, then hoisting the lower, making them the upper, one set thus steadying the wall. In this case a lath will do to fasten them at their tops to keep them from spreading, and a nail driven through it into the board, set so that the lower outer edge of this box-board shall be kept from spreading by striking this nail. This lath is of course in the wall, and can be broken off and left in, or driven through at one end and pulled out at the other, and its place pointed up with mortar. Level off your walls at the top of each story, imbed a board in fine mortar for its top, and place floor timbers on this board. Your wall will support them. I placed three stories and a roof on walls eight inches wide, sixteen feet high, and over thirty feet long, and cut into by two joists, running from bottom to top at that, to form a door. It will exceed brick for solidity; because it can be put up much wetter than mortar can be handled, and the brick seizes and sucks out the water of mortar, thus leaving it too dry to yield a tithe of its tactile power.

WHAT HOLDS IT? Lime. What holds a brick wall? Lime; but the same lime will hold ten times more, or one-tenth the lime will hold just as well as ten times more in brick walls, because this lime is worked much wetter, so that it sticks far faster; has rough stone instead of smoother brick surfaces to fasten too; is embodied into one solid mass, not isolated, like brick; and becomes dry and sets firmly before its moisture is extracted, and gets too dry to stick, as in brick. Wont lime stick to stone better than to brick? and wet mortar better than dry? and irregular surfaces when filled by mortar better than regular? What says common sense? My house, all houses thus built, answer practically. Masons will shake their heads at this, for they want your job. Trust my words and your own sense as to its solidity.

THE OUTSIDE WALL will let some moisture through if you use solid packing material, just as it goes through brick, but not if you use slate-stone material, or what does not pack. For example. Sand or gravel wet and packed close will let water through; but dig out that half rotten vein, full of little rubble-stones of various sizes and all shapes, and add sand or other fine material enough to give it sufficient

tact, let these rubble-stones lie up loosely enough to have air spaces between these stones, and your wall will be as dry as a bone. I furrowed and plastered the outside walls of four only of my sixty-two rooms, but never observed any difference as to moisture between those furrowed and lathed, and those plastered right on to the wall, outside and in; neither of them ever being the least damp, even in the closest dog-days. Dead air spaces, of which this honeycomb wall was full, are confessedly the best nonconductors of heat, cold, and moisture in the world. I was never in rooms as cool in hot weather, or as warm in cold; nor as long in cooling off and heating up from outside as mine. In sudden fall changes, where a week's heat had warmed them, going in to them out of the outside cold made one feel as if entering an oven, because this outside cold had not yet penetrated them; while coming in to them, out of midday heat made one feel as if going into an ice house, minus its chilly dampness; because this outside heat had not yet got through. Open windows did not heat up, because outside air is always cooler than our bodies.¹³¹ This even temperature of these walls is especially recommended to those affected unfavorably by these atmospheric changes. To go to bed of a sultry night after the day has heated up a wood house as hot as an oven, throw off all bed clothes from this heat, wake up in the night shivering with cold from a thunderstorm which has struck its cold right through your room, your bones aching for weeks from a consequent cold, and go to bed in one of these equable rooms, *cool* of a sultry night because this heat has not even yet struck through; and if you waken find your room of the same temperature as when you retired, though it is chilly outside, makes some difference in the long run to persons easily affected by cold and heat. And it is somewhat better to find your room in right cold weather as warm when you get up as when you retired, instead of forty degrees colder! Think out this difference, you who need to. Only this kind of wall is fit for a delicate person to live in. Those accustomed to this wall could not be hired to live in any other.

FURROW THESE WALLS if they are compact, as you would brick, by putting 2×4 scantlings or boards of any width and length, about four to six feet apart, in your wall, while making it, to nail furrowing to.

WIDTH of wall may be anywhere from six inches to twelve or eighteen for factories. They will bear as much again as brick walls equally thick, for reasons just given, eight and ten inches being ample

for dwellings. Still the practical difference between the cost of eight ten, and twelve inch walls is utterly insignificant—only a little more material had for its hauling, five to ten dollars worth more of lime, and a mere moiety for additional labor.

A SMALL CORD run through holes at the tops of these standards, and nailed on to the upper corners of these box-boards, with a person at each end to hoist them, and a third with a light ladder to adjust their rests and fastenings, will facilitate raising and placing them.

PLASTER YOUR OUTSIDE WALL externally as soon as possible after it is up, so that this outside coating may set and amalgamate with the wall itself, instead of letting the wall get dry first; because a dry wall will seize and suck out the moisture of this plaster as soon as it is put on, thus leaving your plastering crumbly, and liable to peel off by frost; whereas if plastered within a week—the sooner the better—both plaster and wall *set together* and adhere as firmly as if both were one. This point is important, and obviates a great difficulty.

PENCIL IT OFF into blocks to your taste; and if you want to make your house look like genuine granite, put iron filings into vinegar, for a day, and both into your outside mortar coat, and the vinegar will rust the iron, and ooze out in drops of iron rust, which drying, will look for all the world just like the iron rust spots of genuine granite.

CLOUD IT by adding lamp-black, but not mixing it much, so that the trowel in spreading it on will leave it in streaks and clouded, some streaks lighter than others. These details are only incidental to our grout wall material.

THE INSIDE walls can be made of studs, lath and plastering, or by this concrete, as you like; the latter will retard the progress of fire, or confine it to the room where it originates; keep out vermin by giving them no lodgment or “home;” preserve the temperature; attain other good ends, and save lathing. Plaster as soon as possible, for reasons given above.

WINDOW AND DOOR CASINGS, that expensive part of houses, can be obviated thus. To make a door or window, take a plank one and a half or two inches thick, and six or eight wide, cut two uprights the required length, and also sill and cap; plain inside and bevel on both their edges next the window; drive in tacks or shingle nails for the plaster to fasten to; nail a piece of hollowing or octagonal bevelling across your box-boards, thus forming a rounding or octagonal bevel between this window frame and the outer and inner sides of your

wall; and you leave after you a bevel or a round on each side as you pass from this frame along to the wall, that is, where you now put casings. In plastering, round this out with trowel, or make it octagonal, thus having no wood about your window but this frame and the sash; your wall rounding or else bevelling in to your window both outside and in, all casing and wood-work being thus avoided.

Fasten in your windows by an inch moulding on each side of sash, for them to slide in, this moulding continuing the round or bevel from window-frame to wall. Or thus: Beginning at the *middle* of this eight by two inch plank frame, two inches on each side are for sash to slide in, with a rabbet and slide between them; one inch for bevelled moulding, which is made thin on its outer edge, to hold the sash nailed against it, this moulding made to merge off into this bevel on the edges of these frame planks, next to the window; the plastering coming up flush to the edge of this bevel, and held to the frame by nails or tacks driven into the edges of this frame plank for plaster to fasten to; and the whole a gradual slope or round from window frame to sides of walls, and at doors the frame as wide as the wall. If you want to economize, plane this frame on its inside, rabbet the corner where the door shuts in to it; and shut the door into the rabbet, or else case, drawing it back enough to hold the door, planing the edges and sides of frame before putting up.

WEIGHTS can be fitted to these window frames as to any other, and a three-sided trough nailed *behind* these frames for the weights. Yet in this case make the frames wider.

DOVE SHAPED ROOFS look more appropriate than French. Their very idea is to shed rain, and their shape should correspond with their purpose. An old fashioned gable end roof is appropriate, yet primitive—not nice and aristocratic enough for moderns. Then pray, how can a thirty-two sided pitching roof be any more so? for its error inheres in its *pitching form*, which additions aggravate, not obviate. Varying it by making four gable ends instead of two, only makes the matter worse, besides making four roof-joints to always leak.

ALL SHINGLE ROOFS are objectionable, because of their necessary pitch; and this because it creates so much unnecessary expense in making and surface for radiating heat and cold. Let an equilateral triangle set up on one of its sides, the other two coming to its apex on top, show you that it has twice as much covering roof as house space covered. This is about the pitch of all shingle roofs. Not only is it twice as large as the space covered, but it sits square across noon-day

sun's rays which penetrate instead of glancing, as they would from a flat roof. Mark how much hotter and colder this renders them than if they were flat. And the steeper they are the hotter. Shingles are unfit for roofs.

AN UMBRELLA-SHAPED roof is appropriate, and its rafters can be easily made by bending one board as you wish the rafter, and *nailing* another bent on to it, and then a third, the nails thus keeping the boards bent, and use *flat-wise*, not *edgewise*. The boards need not be the length of the rafters, but can be spliced; that is, placed bent up against each other at their *ends*.

LONG FLOOR TIMBERS, pillars etc., can be made by this splicing as in making the Boston Jubilee Coliseum. But

FLAT ROOFS ARE PREFERABLE to pitching.

A MIDDLE STORY is the best for dormitory purposes. The upper is heated or chilled from the roof, and the lower chilled and dampened from the ground. Let me sleep in the third story, so as to get all the air stirring, though the second will do, yet have a story above.

HIGH HOUSES and ceilings are much cheaper for their room, and every way better than low. Foundation and roof, the two most costly parts of all houses, are the same in both for their size; yet it takes double of both for a given amount of room in a one story as compared with a two and three—no trifling difference.

279.—HOW TO MAKE GOOD RAIN WATER CISTERNS CHEAP.

CISTERNS FOR RAIN WATER, the best there is, ¹²¹ can be made "for a song," by any man of fair ingenuity, thus:—

ONE LARGE enough for ordinary family use should be at least ten feet in depth and diameter, though twelve would be far better, and every inch in either diameter or height adds several barrels to its containing capacity. Every foot deeper and wider would about double the amount of water it will hold; and the deeper it is, the cooler and sweeter its water, and the less liable to ferment, and the easier the formation of its top. While about it, you may as well make it large *enough*; while being larger than really necessary will neither hurt it nor add many cents to its cost. Our mode of structure has nothing to say respecting its size. Determine that by other circumstances. Let your hole be dug about four to twelve inches larger than you propose to have the inside of your cistern, and have a perpendicular trench sunk a few inches along up that side where you propose to draw up your water, in which your pipe can ascend from the bottom of the cistern

to the pump. Level off your bottom so that the water will settle in a little basin somewhere in it, from which its rinsings and dirt can be easily dipped out.

BEGIN its construction by procuring a spruce board, one inch thick, about six to eight inches wide, and three times longer than the proposed diameter of your cistern. If you cannot find one long enough, splice by putting their ends together, and nailing a short piece some three feet long across them, so that it will lap from each on to the other.

SAW THIS BOARD CROSSWISE on its *inner* side every three or four inches, and the oftener the smaller the cistern, *almost* through, but not quite, so as to allow of its being *bent round*, in order to form a *hoop*. This lapping piece must also be sawed. Bend it, and fasten the ends by nailing a narrow piece or two, across it, which will also enable you to handle it by standing in its middle. You will also need to work from its inside. We will call this round-bent board the *hoop*, or mould by which to form the inside of your cistern. It should be in size anywhere from three to six inches *smaller* all around, than the hole for your cistern. The larger it is the thinner the walls of your cistern. It may as well be six inches from this hoop to the outside of your cistern hole. The farther it is, the more material will be required to fill it in forming your cistern. Four inches will do, and there is no need of ~~over~~ eight, while five or six are enough to give all needed body to your cistern wall. It should have a few holes with ropes in, by which to lift it evenly by a pole above.

THE SAME MATERIAL will do for cistern as for house, only finer.

THE BOTTOM of your cistern is to be formed by taking about two or three bushels,—the more the larger your cistern,—or enough to cover its entire bottom about two inches thick, but with no stones larger than your bottom is to be thick, for you want a smooth bottom.

ADD WATER LIME at the rate of about one-sixth or eighth of the whole bulk of this material, the less the coarser it is, and the less economical you are, and costly your lime. One-tenth water lime will probably do to nine-tenths of gravel, yet if you prefer to be extra safe, one-eighth or one-sixth will make you so. Masons will tell you one-third, but of this there is no need.

MIX the two well together dry, by shovelling. Then add sufficient water to make the mass about as thick as ordinary mortar, so that it will run and pack into one solid mass. Spread this evenly over this bottom, leaving a place to stand in at the hollow, above suggested.

Even it all down, and work down all projecting pebbles till it becomes smooth. This material should be used as soon as may be after it is wet, because its first set is the best; though a second wetting and setting will do by adding more lime. Your bottom is thus formed and about done. Let it stand untouched an hour or more, or over night, till well set; unless you are in haste; but if so, cover it over with sand, a few inches to a foot or two in the middle portion, but not around the edges. This sand will enable you to keep on working without injuring your bottom, but around the outside, where the wall comes, there must be no sand.

PLACE YOUR HOOP, so as to be about four to six or more inches from the outside of your hole, all around. Take half a bushel of the finer quality of your material, all sand will do better, and about six quarts water lime, mix well by shovelling, add water enough to make a mortar of it, and put it around the *outside*, at the bottom of your hoop, and work it well into this bottom to make a good *junction* between the bottom and the side of your cistern, run the point of your trowel around outside the bottom of the hoop to smooth down any projecting material, and consider your work fairly begun.

BEGIN YOUR PIPE for pumping out your water right here, by inserting a lead pipe, bent, and laid under your hoop, one end opening into the bottom of your cistern, and the other behind the hoop. Mix enough material and wet enough lime and material to fill up between this hoop and the earth, about one part lime to six or eight parts of material, and fill in behind the hoop, the better if not filled quite to its top, putting in any stones you can get in, and leave the mass solid.

A CEMENT PIPE can be made like the chimneys by setting an inch stick at the *end* of this lead pipe, between the hoop and dirt; have it perpendicular; put fine material all around it; let it be in the perpendicular trench described in making your cistern hole; and keep drawing this stick along up, thus leaving a cemented hole behind it.

LIIFT THIS HOOP to within an inch or so of the top of the material already placed—about four inches, if your board is six inches wide, and fill again to within an inch or so of its top. This lifting must be even, or on all sides *at once*, so as not to break the material already placed. Still, if it becomes broken, your trowel, rubbed along over cracks as soon as the board is hoisted, while the wall is green, will fix it all right again. Your best plan probably is to let these four ropes in these four holes extend to the surface of the ground; put a pole through all four, with sufficient purchase to raise all at once; and at

each rise shorten the ropes. Repeat this last process of filling in behind the board, and lifting it till you have raised your cistern sufficiently to begin to form its top, or about four to six feet below the top of the ground. After making the upper course richer with water lime than usual, so as to have a good foundation for its dome, the construction of which involves the only really difficult part of the whole process, proceed to make this dome as follows:—

TAKE ANOTHER SPRUCE BOARD, one third longer than the diameter of your cistern; nail a short piece on each end to hold it up after it is placed; saw it almost through crosswise every three or four inches, as before described for the hoop, to allow bending, and tie the two ends, to keep it bent; set it on top of this round board hoop, the ends of the latter on the sides of the former, so that their outer edges shall be even. This short piece should be so nailed on as to lap from the horizontal hoop to the perpendicular one. Do the same with a second spruce board, thus forming four ribs for your dome, which must of course cross each other at their top, where the mouth of your cistern is to be. Now knock in pieces one of your water lime barrels, and set its staves, one end on the horizontal hoop and the other lapping over on the upright ones; put thick brown paper over any holes still left, thus forming a dome-shaped mould for the top of your cistern, all resting on this horizontal hoop, and about even with its outer edges. Mix your material and lime, as already described, and build it up carefully around this dome, till the hole left becomes about two feet across on top. Make the material richer with lime than for the body of the cistern, say one-fourth to one-sixth, because this arch requires more strength, embedding brick-bats, blacksmiths' cinders, stones, the thinner and flatter the better, to help strengthen this arch.

DRIVE THE HOOPS on one end of one of your lime barrels; nail them; knock out both heads; saw in two in the middle, these short half staves will help in forming your dome, and place one of the halves, with its smaller end down, on top of this dome, where the upright spruce boards cross, and build the same material right along up around this half barrel, the top of which should be about even with the top of the ground, which should be calculated beforehand, or else the ground rounded up to its top. Fill dirt all around over this dome, and keep pouring water daily over and around your cistern, outside, and let it stand a week, though a month is better. Your *cistern is built!* Finish off thus:

SAW THROUGH these upright spruce dome boards, where the;

cross ; knock them in to your cistern ; go down into it, and take out this dome and the spruce board ; sell them, hoop, dome, and all, to a neighbor, with which to build another cistern for himself ; for one cistern mould will answer for scores of cisterns, and can be so constructed as to be easily taken apart, without this sawing or boring. Let the half barrel remain, and by nailing together the pieces which composed its head, you have a lower *cover* to the neck of your cistern, which will fit and set right down into this half barrel, and stop near its bottom, while another top cover, over all, will form an air-tight partition between these top and bottom covers, which will prevent the frost from penetrating into the cistern. Leave an outlet towards the top of this dome for the surplus water to pass off after the cistern is full.

FINISH OFF the inside of this cistern, and make it water-tight, as follows : As you keep drawing up this horizontal hoop to make the cistern, and while the material is yet soft, rub your trowel along over it, to pack the material and fill up all its cracks and holes. After taking out your dome, beginning up by the half barrel, fill up all holes with a mortar of water lime and sand, all around and all the way down to the bottom, which finish out, and make tight with this mortar.

Make a thin wash about as thick as for whitewashing by putting water lime into water, and wash your cistern over and over from top to bottom with a whitewash brush, and your cistern proper is all done ; unless you choose to

MAKE A FILTER thus : Take soft or porous brick ; set edgewise, and end to end. Four or five long will make it large enough. Set in lime mortar, and one tier above the other for about six tiers, drawing in each tier, thus making a brick box around the mouth of your cistern, leaving a place for drawing the water large enough to hold two to four pails of water. The water thus let into the cistern proper will filter through the brick into the brick compartment about as fast as you draw it out. Draw from this brick filter as you would from any other cistern.

Your cistern is now in complete working order, just as good as if a mason had made it at a cost of nearly a hundred dollars, yet it has cost you for

Thirty feet of spruce boards, about	\$0 60
Two barrels water lime (varying with the locality)	6 to 8 00
Pebble and sand material, about	2 00
Digging cistern hole, same as for others, about	6 00
Amount of work, from	8 to 10 00
<hr/>	
Total,	\$26 60

But any intelligent man can do all the work, in which case it will cost only for the lime and boards, and less than ten dollars.

Tell masons and carpenters you do not need their services, and can all alone make a cistern for less than ten dollars as good as they would make at a cost of seventy-five dollars. Those who follow these directions will make no failures, and may justly be proud of the work of their own hands. Or, if you fail the first time, try again, avoiding the cause of the failure next time.

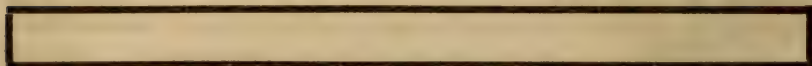
AN OBLONG or any other spherical cistern can be made by bending *two* boards the shape you want your cistern, fastened by screws to a standard, raised like the hoop till ready to make its dome-shaped roof, then not hoist their *ends*, but keep raising their *middle* just as you raise the handle of a pail, or top of a carriage, till both stand at an angle of 40 to 50 degrees, or near enough for some kind of *staves* to reach across from one to the other. Sugar hogshead staves will be needed if your cistern is large; place their ends across these hoop boards; put on thick brown paper to keep the mortar from slipping through; round up above with dirt or clay, formed arch-like on top, and run your material along up as before to the barrel in the centre of its top. Any one with any sense can vary and execute the details of this plan to his liking. It can be made to work like a charm. A centre hoop board can be arched over its middle, so as to have two rows of staves, thus greatly increasing its convexity, so that it will stand the better, because dome-shaped.

280.—THE OCTAGON FORM OF HOUSES, BARNs, ETC., PREFERABLE.

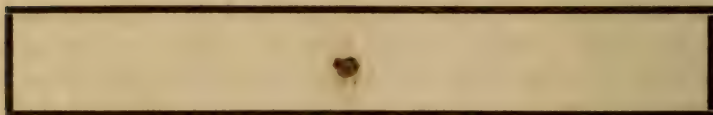
THE SHAPE of buildings is next in importance. Of course rooms should be rectangular, because easier made, better adapted to carpets, furniture, beds, windows, etc.; yet octagonal rooms look and wear well. This would seem to require a rectangular square-shaped house, but octagon-shaped can give square rooms, with triangular closets.

A SQUARE house gives much more room for its wall than an oblong, as the following figures will show.

ADVANTAGES OF THE SQUARE FORM OVER THE OCTAGONAL.



No.—206.



No.—207.



No.—208.

THE FIRST represents a room or house 62 feet long and 2 wide, which gives you 128 feet of outsidewall, and 128 square feet of inside room, the two equal: the second is 44×16 , has just as much surface wall, but encloses 704 square feet, or over 6 feet of inside space to one foot of external wall; while the 32 feet square house, having the same length of outside wall, with the others, yields 1024 feet of space, or 8 feet of space for every foot of outside wall; that is, eight times more than the first, and four times more than the second. By virtue of this principle—

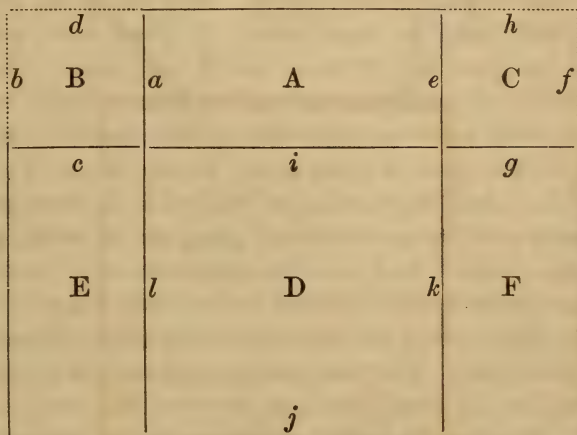
A CIRCLE contains more inside space for its circumference than any other figure, and therefore the nearer your house approaches the circle, the greater its capacity for its surface. This recommends the

octagonal form as the best available, because a circular is difficult to make, the octagonal easy, and yet nearly as capacious.

WINGS AND ELLS necessitate a great loss of room for their outside wall, on the principle just demonstrated. Both are combinations of folly and extravagance, and destructive alike of beauty and utility.

A NEIGHBOR asked my opinion about building two additions, E and F, to his barn, A, No 209., and asked my advice. I replied:

"Suppose the wall *a* had been built at *b*, *c* at *d*, *e* at *f*, *g* at *h*, and *i* at *j*, you would have had all these spaces, B, C, and D, added to your inclosed room, without adding one inch to your foundations or walls, and *with* an actual *saving* of the walls *l* and *k*. By your proposed plan you have only 1,350 feet of room, but by mine 2,700, or exactly TWICE as much room, yet 60 feet, or almost ONE-FOURTH less



No. 209.—AN AWKWARD BARN.

of wall and foundation, which will almost make up the extra cost of roof. Double the room and one-fourth less wall makes a difference of some *sixty-two per cent.* more of room in proportion to wall by my plan than yours." "I declare," he exclaimed, "I do wish I had seen you before." "Besides, you can not get from one barn to another without going *out of doors*."

ALL WINGED houses, and all having additions appended, are equally objectionable, and for precisely the same reason, besides their requiring three foundations, sets of rafters, roofs, etc., and less space by half inside for their outside wall; and if three stories high, and the winged two in the centre, and the wings one, *twice and a half*; besides all the loss of labor and materials in constructing all these useless corners.

IN COTTAGE AND DORIC houses, every room joins foundation or roof, thus imbibing moisture, and radiating heat in hot, and cold in cool weather from twice the amount of roof needed to cover the house.

THE OCTAGONAL FORM has these advantages; 1. It gives one-fifth *more room* for its outside wall than the square, and more than double that usually obtained; 2. Its rooms are compact, and handy of access; 3. It gives triangular closets to all the rooms; the uses of which let woman attest. They fill one of the essential wants of all houses. The octagonal form gives square rooms, and between them just such spaces as are wanted for closets, and just *where* they are wanted, and of the right shape.

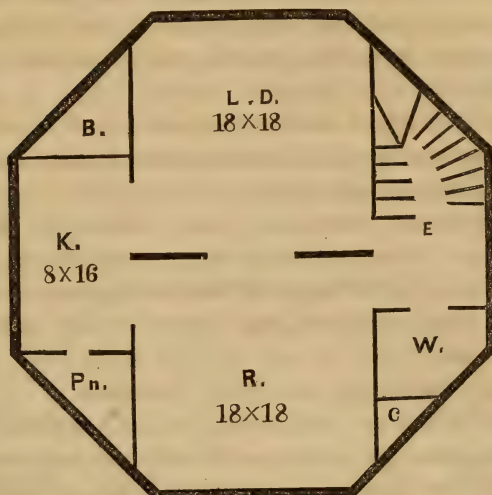
WALL room is what closets require. Now triangular closets give *double* the wall room for their space. A closet 6×6 , occupies 36 square feet, yet gives only 24 lineal feet of wall room; whereas running a partition diagonally across it, gives almost double wall room, there being wall room on *each* side of this partition, without its occupying one foot more of house room; having 42 feet of closet wall, in place of 24. And this room much handier to the door, from which you can reach to all its parts without going inside, which you could not do in the square. And these triangular corners of the shelves are *just* the cosy places needed in which to put away things.

ASCENTS, DESCENTS, AND ENTRIES are greatly facilitated by this octagonal plan, thus: The true place for stairways is up through the centre, or else at the front door, but not in a hall running through the house. As generally located, entries are almost nuisances. They let in a vast amount of cold, which is conducted into your rooms, and cannot be controlled, besides separating parlor and sitting room, which should adjoin, and open into each other. Ascent and descent can be effected better by the octagonal plan thus:

A THIRTY-TWO FEET square house is only moderate in size, gives 1,024 feet of room, but no place for an entry without separating sitting-room and parlor, or else taking up one-fifth of their entire room, and throwing kitchen and wood-room into an addition, the disadvantages of which we have exposed, besides the expense of building an extra house; while our octagon gives 1,218 feet, wastes only 60 feet in stairs, gives kitchen *with* the house, and right where it is wanted, not in an outbuilding, and good-sized rooms all round. Now just scan our plan.

THE ENTRY E, 6×8 or 10, takes up only about 50 square feet of

OCTAGONAL DIVISION OF ROOMS.



No. 210.—A 16-FOOT OCTAGON.

house room, instead of the 200 or more usually consumed, yet supplies every required entry facility. The entry door should swing *from* the stairs; you turn to the left for parlor, reception room, R, PR, right for living and dining room, up stairs, and down cellar, its stairs being under the upper, and near the living room. A dish closet out of this living room can be got behind and under these stairs.

A BACK ENTRANCE and stairs at B, into and up from the kitchen, gives all required in that line, along with another living room closet, under the back stairway. Your kitchen 16×8 has its lighted pantry, and it a dish closet in the angle *behind* the reception room, which can open into the kitchen, if preferred.

PARLOR AND LIVING room connect by folding doors. This gives you $\frac{1}{4}$ larger parlor and living room *together*, viz., in a 16 feet octagon 18×18 each, while the 32 feet square house gives 15×24, larger than your 32 feet square house, which is *without* kitchen or closets; while our plan gives you both, and without kitchen appendix to your house in either looks or expense. Please note all these advantages of less cost, with more room, and kitchen close to dining room.

PUT ENTRY AND KITCHEN WALLS where you like. That is, give more room to kitchen and entry, and less to living room and parlor, as you prefer. Probably 18×18 for each would be about right. Your house is 36 feet clear in diameter. So setting your entry and kitchen walls about a foot from their two house corners, gives you 18

feet wide for each, and kitchen and entry 7×16 each, yet you can throw the more, or the less room out of or into kitchen or closets. An 18 feet *square* room will just fit your yard wide carpets, while entry will take two breadths, and kitchen three. Is, could, or need there be a cozier, snugger, handier plan, all around? and at less than half the expense of a 32×32 feet house, with kitchen added, but *better* every way. Use your own eyes.

THE UPPER STORY presents the same advantages. You land soon enough to enter to the right the large room over the living room, or, proceeding a few feet, that over the parlor, and have another rectangular room over the front entry, with triangular closets to each, and a large closet or small bed-room out of the one over the living room, and can start your third story stairs right over your front door.

OVER YOUR KITCHEN you have a good sized bed-room, 16×7 , and a place for a stairway above, or a small bed-room, and can open the one over the front door into the one over the kitchen, or even both; with a triangular closet to each. This plan is for a moderate sized house. To look right well, and be most serviceable, it should be two and a half or three stories, with a flat roof. A low house has a mean squatty look, a high one makes a noble, commanding appearance; provided it is not top heavy, or steeple like.

A MAN OF MEANS is able and disposed to build an ordinary 36×44 feet house, with an entry through its middle, and two rooms on each side, double parlors on one side of entry, and kitchen and dining-room on the other; has 1,584 feet of room, to 160 lineal feet of wall; gives 288 feet to entry and 324 to each of his four rooms 18 feet square, and the same above. This equals an octagon 20 feet square, equal in its walls to the house 36×44 , just figured, would not probably cost \$100 more than a 16 feet, for there are no more doors or windows and only longer walls, the cost of which is trifling,²⁷⁸ and more flooring and roof, but *double the available room*.

A CENTRAL STAIRWAY has many advantages. Its bottom is easily reached from the lower or cellar stairway, or from either parlor, sitting or dining room, and kitchen, all grouped right around it thus:

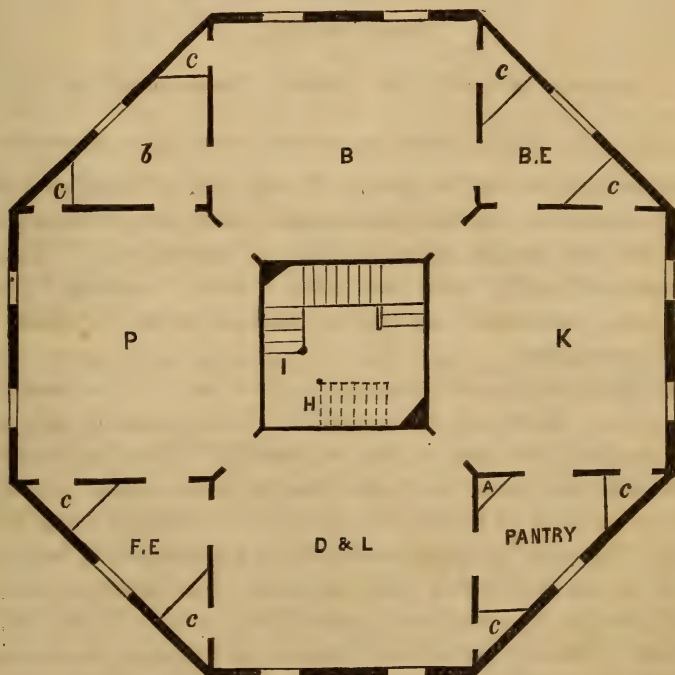
ITS ENTRIES should be *between* the four points of the compass so as to bring its four main rooms due east and west, north and south, and placed so that parlor may front north or west, kitchen north or east, living and dining-room south.

SUNSHINE is not needed in the parlor, but is in the living-room. A south parlor wastes this great necessity and luxury, because

occupied little during sunshine, but mostly evenings, and on special occasions; whereas living-room is used early and late, summer and winter. One often needs to loath in sunshine, and sitting-room is its place. This a bay window, facilitated by the octagon form, promotes.

A COOL SOUTHERN BREEZE always accompanies right hot weather. This renders your sitting-room the coolest in the house, except those

20-FOOT AND CENTRAL STAIRWAY PLAN.



No. 211.—THE BEST YET.

right above it, whilst in fall, winter, and spring you want all the sun you can get in your *sitting-room*, even though it robs the others.

AN EAST OR WEST entrance will enable you to put your parlor on the north and sitting-room on the south side, while a northern entrance naturally gives the sun to the kitchen, and a southern to your parlor. These facts are worth considering in laying out the house you are to live in always, yet have heretofore remained unnoticed.

WOMEN SHOULD TURN ARCHITECTS. They are naturally adapted

to at least *help* plan houses ; and then to grace, furnish, and run them.

HUSBANDS, do your utmost to give yourselves and families the best domicile you can afford ; and wives see that you make every house, whether palace or hovel, a cosy, lovely *home* ; for better a hovel with a lovely, loving, motherly, womanly, amiable, female angel at its hearth-stone, than a palace with a proud, selfish, cross-grained, hating, hateful termigant, presiding at the family altar.

SECTION III.

SUCCESS IN LIFE: ITS EXTENT, CONDITIONS, ETC.

281.—IN WHAT ENDS TO INVEST OUR LIFE ENTITY.

TIME IS LIFE, as well as money. Young men, all men, all women, you have earned or inherited a thousand dollars, and are casting about for the *very* best possible speculation for its "investment." You scan "government bonds," bank and other "stocks," mining "shares," corner lots, commercial "enterprises," and all other "prospects" for its most *paying* use.

YOUR SELF-HOOD is this thousand. *Some* use of it you *must* make, *volens volens*. How will you expend it ? Will you use it up in a day, a year, or spin it out just as long as possible ? You had better extend it, especially since those identical conditions which extend also enrich it. And it is worth too much to be violently curtailed.^{15 226} It is no "elephant" on your hands, but a God-conferred boon, to be enjoyed to the uttermost. Will you worse than squander, will you *vitate* it besides, on your lower propensities, or "lay it out" on your affectional, pecuniary, ambitionl, moral, professional, intellectual, or any other life pursuit. If you invest it in the loves, will you have their pure phase, or their carnal, sensuous form ? If in business, of what kind ? Commercial, or mechanical, etc., and what form of either ? Or will you seek some ambitionl phase ; and if ay, will you have political and official, or fashionable and grandiloquent, or moral, or intellectual ? And if the latter, will you have its oratorical, or poetical, or literary, or professional, or scientific department ? Or on what other life object do you propose to expend your own dear precious physiology, mentality, existence ? Look all around over all your possible "openings," and choose the best. Yet by what standard can you test all, to ascertain which *is* the best ?

WHICHEVER PROMISES THE LARGEST PLEASURE DIVIDEND to you should have your choice.¹⁵ One will yield the most enjoyment to one, and another to another, but you want the one which will give *yourself* the most pleasure. That point you must determine for your own self. Others may aid you, but you alone must have "the casting vote;" nor shirk its responsibilities.

YOUR PHRENOLOGY will aid your choice. To decide without obtaining its aid, is fool-hardihood, and suicidal neglect. Consult it the more, the more your life is worth to you. You cannot afford to endanger a failure by espousing a business for which you are constitutionally disqualified.⁶⁷ Your taste will help, but your *inherent* biases must predetermine. A *sure* thing is what you require. If you have these organs strong, and those weak, you should select this business, and *vice versa*. To know what organizations fit you best for what kinds of business, thus becomes of the last practical importance. Many are tied to a loathed dead carcass business, in which they can never attain mediocrity, who could gratify pride, love of money, Ambition, and entire Nature in some other;—a principle equally applicable to children.

282.—WHAT DEVELOPMENTS ARE NECESSARY FOR SPECIAL VOCATIONS.

The following samples will enable you to decipher others.

GOOD TEACHERS require an active Temperament to impart that vivacity of mind and quickness of preception so essential to awaken and develop the minds of pupils; large Perceptives with large Eventuality, in order to give an abundant command of facts, and to pour a continual stream of information into their minds; large Language, to speak freely and well; large Comparison, fully to explain, expound, and enforce every thing by appropriate and copious illustrations; large Intuition to study out the respective characters of each pupil, and adapt instruction and government to their ever-varying capacities and peculiarities, that is, to know "how to take them;" full or large and active Causality, to give them material for thought, explain causes, and answer their questions, and stimulate this inquiring Faculty to action; good lungs, to endure much talking; only moderate Continuity so as to turn in quick succession without confusion, from one scholar or thing to another; fairly developed Friendship, to get and keep on the right side of parents; large Parental Love, to give that fondness for children which ingratiates the affections of pupils;

large Kindness, to impart genuine goodness as well as thoroughly to interest in promoting their welfare; large Firmness, to give fixedness of purpose; fair Dignity, to secure respect; yet not too much, especially if combined with active Force and Destruction, lest they become too arbitrary; large Conscience, to deal justly and cultivate in them the sentiment of right and truth; a fully developed moral region, to continually stimulate their higher, better feelings; large Beauty, to render them polished and refined, so as to develop taste and propriety; and an excellent general head, because this occupation stamps the pupils with the predominant traits of their teachers' intellect and character. They also require discipline to give full control over them, and much patience and self-government. Few if any avocations require more talents or moral worth. The idea that anybody can teach who can read, write, and cipher, is erroneous. The best or none. You who select this avocation, make your pupils LOVE you. This will obviate all requisition for the whip, yet give you unlimited influence over them. To do this, do not be austere, but affable, kind, good-natured, even when provoked, and familiar. Especially give them good advice as well as good instruction. Next to this, secure the good-will of their MOTHERS.

A CLERGYMAN requires the mental or motive mental Temperament, to give him a decided predominance of mind over his animal tendencies, and to impart the thorough and substantial to all he says and does; a large frontal and coronal region, the former to give him intellectual capacity, and the latter to impart high moral worth, aims, feelings, elevation of character, and blamelessness of conduct; very large Kindness and Conscience, to render him truly philanthropic and disinterested, and willing to sacrifice personal interests upon the altar of human happiness, and to create a strong desire to make men happier by making them better; large Worship, to imbue him with the truly godly and prayerful spirit, so that he may excite these feelings in those around him; small Secrecy, so that he may declare the whole council of God, without "daubing with untempered mortar;" or hide the truth in round-about expressions; small Acquisition, so that he may care little for money as such, and be indisposed to barter and traffic; large Friendship, so that he may make all who know him love him, and thus win them over to the paths of truth and righteousness; only average Force, so that he may be mild, yet enough to give energy of character and great moral courage to dare to utter the whole truth, cut where it may; large Parental Love, to render him interested in

the moral improvement of children; full or large Beauty, so that he may please with his elegance of style and ease of manners and delivery; large Comparison, to render him clear and pointed, and to enable him to expound, explain, illustrate, and clear up knotty points, make himself fully understood, and carry conviction to the understandings of all; full Hope, to render him cheerful; large Expression, to enable him to speak with ease and perspicuity; full Continuity, so that he may impart oneness to his discourses, yet not too large, lest he become prolix; and a uniform, well-balanced head, so as to render him consistent in conduct and correct in judgment, and also excite the better feelings in those who come within his influence. The intellectual and moral should predominate in himself, so that these Faculties in him may perpetually excite similar ones in all around him. None but those who have superior moral and intellectual developments, along with an excellent physical organization, should enter this calling. Their very office puts a mighty moral influence into their hands, which none but the good should be allowed to wield, lest they wield it for evil. Large Worship, however, is not indispensable, for *reform* preachers have it less than Kindness and Conscience. If religious doctrines and practices were entirely right, the more Worship the better, but they require to be reformed and improved, which too large Worship prevents.

PHYSICIANS require a strong, robust Temperament, so that they can endure hardship, fatigue, and want of sleep and food, and stand all weathers and immense labor; large Perceptives, so that they may study and apply anatomy, physiology, chemistry, and botany, with skill and success; large Kindness, so that they may really desire to alleviate suffering; fair Destruction, lest they shrink from inflicting the pain requisite to cure, yet not too large lest they become harsh, and inflict unnecessary pain; large Construction, to give them skill in the surgical part of their business; large Love, to give them favor among women, yet not too much lest they abuse their required intimacy; large Parental Love, so that they may get on the right side of children; large Force, to render them resolute and prompt, and give them presence of mind; large Caution, to render them judicious and safe; and a large head to give them power of mind. Physicians, too, more than any other class, require that liberality of views, that openness to conviction which shall allow them to keep up with the times, and adopt all improvements in the healing art; for no other is equally imperfect, or more imperiously demands reform and advancement.

LAWYERS require the mental Temperament, to give them intensity of feeling and clearness of intellect ; large Eventuality, to enable them to recall law cases and decisions, and to recollect all the particulars and items of the case ; large Comparison, to enable them to put together and compare different parts of the law and evidence, criticise, cross-question, illustrate, and adduce similar decisions and cases ; large Mirth, to enable them to argue by ridicule ; large or very large Force, to make them love litigation and encourage strife instead of reconciling the parties ; large Hope, to make them expect success and confidently promise it to their clients ; large Dignity, to enable them to brow-beat and deny ; large Force, Destruction, and Mirth, to render them sarcastic in their repartees ; large Secretion and less Conscience, so as to allow them to engage in unjust causes, without scruples, and wrong their opponents out of their just dues, by quirks of the law, whenever possible, as well as to plead a bad cause, and violate truth with a hard face ; large Expression, to give them a limber tongue, so that they can talk much yet say little, and substitute verbosity when they lack argument ; large Beauty, to supply the place of facts by ingenious suppositions and a fruitful fancy ; a practical, showy intellect, but not a high moral head, yet abundance of selfishness and gammon. I speak now of common lawyers, and of law as now practised, in which a palpable want of truth and justice is too apparent to require proof ; and recommend none to study law who have high moral feelings and wish to retain them ; because the very nature of this calling tends to blunt them. They will also be required to do much which is revolting to all our better feelings, or else to lose clients. Those who would rise in this avocation, must make up their minds to pocket their consciences, and encourage hard-faced selfishness. Yet we require a total change in both law and the way it is practised ; require honest lawyers, now a scarce article. The sole end of all law should be to secure rights and prevent wrongs. Such ends require little selfishness, sound judgment, and predominant moral sentiments. Yet such lawyers try very few causes, but generally bring the parties to a mutual compromise and reconciliation beforehand—ininitely the preferable course, and one which lawyers should always recommend and try to effect, however it may diminish their fees. Of law, as now practised, all must entertain a very poor opinion, and discourage from entering this profession.

STATESMEN require a Temperament of much power to give strength of mind, and a large and well balanced intellectual lobe, to enable them to see through great public measures and choose the best course,

together with high, narrow heads, to render them disinterested, and seek the people's good, not selfish emolument. Few callings require better men, or more general philanthropy; yet few have less. Many politicians have intellects, yet few have high moral feelings. They are usually selfish, and must be so to adapt themselves to politics as now conducted. Still, good men should engage in it so as to reform it, yet such will meet with poor encouragement.

• EDITORS require a strong and active Temperament and brain, in order to enlist and interest their readers, carry them along with themselves, and describe well; large Observation and Eventuality, to collect and disseminate incidents, facts, news, and general information, and give a *practical* cast of mind; large Comparison, to enable them to illustrate, explain, expound, criticise, pick flaws, show up opponents, and the like; full or large Force, to render them spirited and ready for conflict, as well as to put energy into their writings, and a good moral organization, so that they may promote morality and general excellence; large Expression and Mirth, to render them spicy, racy, and facetious, and enable them to ridicule what is absurd; large Beauty, to give taste and elevated sentiments, and add a flowing, elegant style, and a happy talent for description; and if they also read proof, large Form, to spell correctly and detect typographical errors. Yet different organizations are requisite in editors of different things. Thus, a political editor requires a very different organization from a scientific. The former requires a much less powerful organization and brain, and more practical talent, yet less of the profound, deep, investigating, and substantial. Editors of scientific works require a large intellectual lobe, large reflectives, especially Comparison, and high moral sentiments, so that strict truthfulness may characterize their version of all they write.

AUTHORS require the mental-motive Temperament, to impart great strength combined with great activity of mind, together with clearness, force, and impressiveness; high and strongly marked heads, to enable them to pen what is worth perusal and re-perusal; well balanced heads, so that they shall take consistent and correct views of subjects; especially large and evenly balanced intellectual lobes, so that their ideas may be sound, comprehensive and consistent; large moral organs, to infuse elevated moral sentiment into all they write; especially predominant Conscience, to give them the highest and the strictest regard for truth; full Intuition, to give them an intuitive perception of universal truth; smaller sensual propensities and little selfishness;

more especially large or very large Comparison, to give point, clearness, appropriateness and keen discrimination in the use of words and arrangement of sentences and thoughts; fair Expression, but less than Intellect, that they may condense; great Beauty, that their sentiments may be pure and diction elevated; large Worship, that they may inculcate it; and predominant Kindness, in order to write so as to benefit mankind. In most kinds of authorship large Causality is indispensable, yet not in writing tales or compiling events. Indeed, the tasks of few are equally laborious, and none require stronger intellectual capabilities, or a higher tone and more elevated standard of moral character and conduct.

PUBLIC SPEAKERS require a predominance of the vital-mental Temperament, to inspire them with the ardor and enthusiasm required to enlist the feelings of an audience; a highly wrought organization, to give them pathos, clearness, and flow of idea and feeling; large social organs, to give them access to the feelings and affections of listeners; large Force, to infuse life, positiveness, and spirit into what they say; not too much Secrecy, lest they become ambiguous, and unwilling to open their whole souls; neither too much Caution, nor Worship, lest they become embarrassed, nor too little, lest they become reckless and impudent; large Ambition and Dignity, to render them aspiring, and dispose and enable them to "lead off;" large moral organs, to purify and elevate their ideas and conceptions; large Beauty, to give them brilliancy and fertility of imagination, and refinement of sentiment, purity of feelings, and an elevated style; large Imitation, to enable them to mimic, describe, and impart the life-like to their efforts; large Mirth to render them amusing, and full of the ludicrous, with large Eventuality, to intersperse a great variety of illustrative anecdote, give them a full command of their subject, and enable them readily to throw their ideas into shape, as well as to give them the required detail and amplification; large Observation, to render them specific and distinct, and enable them to personify and set matters before their audiences as if speaking present realities; large Expression, to give them a ready command of words, and a flowing, easy, happy delivery, and with Eventuality, Beauty, and an excitable Temperament, to render them eloquent and impassioned; together with large or very large Comparison, fully and appropriately to illustrate every idea, and render all they say apt and appropriate; large Urbanity, to render their "mode and manner" acceptable and taking; and large Intuition, to enable them to catch and control the minds of

audiences ; along with a superior Temperament and moral and intellectual lobes. None but good men should become public speakers.

POETS require the highest order of both Temperament and developments. Poetry depends more on physiology than phrenology. It consists in a spiritual ecstasy which can be better felt than described. Not one in many thousands of those who write verses have the first inspiration of true poetry, yet to detail the conditions requisite for this avocation would unduly protract.

LECTURERS require fine, active, and yet strong organizations ; full intellectual lobes ; especially fulness from the root of the nose upwards, together with high foreheads, to give them facts and thoughts in abundance ; large Expression, to render them fluent and copious ; amply developed Beauty, to render them refined and eloquent ; sufficient Dignity, to prevent diffidence, yet not so much Ambition as to render them vain or egotistical ; a high coronal region, and large social organs so as to make friends ; large Force to impart spirit and efficiency to both manner and matter ; not too much Caution nor yet too little, and in general, well balanced heads. Yet here, too, lecturers on different subjects require different organizations.

THE PHRENOLOGIST requires a Temperament of the highest order, exceedingly quick yet strong, to impart both mental activity and power, and enable him to run rapidly yet correctly through the vast multiplicity of conditions which go to form character ; great strength of organization to apply his entire energies with great power to the work in hand ; an ample intellectual lobe, to give power of mind, and in connection with the required activity, to impart cogency, pointedness, efficiency, and distinctness ; an evenly balanced intellect, so that he may take into full account all those conditions which influence character and conduct ; great Observation so that he may perceive those conditions at one glance, and see all that can influence his ultimate conclusions ; ample Eventuality, to remember all he observes ; great Comparison, to combine and comprehend all the relative sizes of all the organs with each other, and with the existing Temperament—a truly Herculean labor, and one which requires the utmost tension of this Faculty ;—a copious flow of Language, to facilitate description, and convey the results arrived at ; good Mirth, to spice the whole with the lively and exciting ; good Causality, to investigate and present the great principles and general bearings of its philosophy ; not too much Secretion, lest he become ambiguous and avoid direct declarations ; large Parental Love, to gain him the good

will of those children he may be called upon to examine, so as to render his advice acceptable and dispose them to follow it; large Kindness, thoroughly to interest him in the welfare of his patrons, and impart advice wherever required, as well as to apply this science to human improvement and happiness; and a high coronal region, so as to inspire him with high moral feelings and give all he says and does an elevated moral aspect; together with the strictest sense of justice and a well balanced head, especially intellect; because as he is, so will be his examinations and views. Predominant Causality and deficient Individuality render him too slow in arriving at conclusions; yet this organization is not incompatible with his making excellent examinations, provided the required time is taken.

MERCHANTS require much sprightliness and activity, to enable and dispose them to move easily and rapidly, and prevent indolence; large Acquisition, to impart a desire and tact for making money, driving bargains, buying, selling, exchanging, and handling money; large Hope, to promote enterprise, yet not too large unless checked by Caution, lest they buy more than they pay for, and dip so deeply into speculations as to fail; at least full Caution, to render them provident and safe; large percepts, to give quick and correct judgment of the qualities, texture, nature, and like properties of goods, and enable them to buy and sell well; large Beauty and fair Color, to give them correct taste and good judgment of colors; good Computation, to impart rapidity and correctness in casting accounts; large Ambition with less Dignity, to render them courteous, polite, affable, as well as emulous to please and excel; smaller Continuity, so that they can go from one customer to another and back without confusion, and transact correctly a great multiplicity and variety of business in a short time, though interrupted; full Friendship, to enable them to make friends of customers, and thus retain them; full Construction, to impart manual dexterity in packing, unpacking, and wrapping up goods, and tinkering up things about the store; fair Secrecy, to give a due degree of policy, and keep to themselves what they do not wish to divulge; good Conscience, so that they may deal fairly and adopt the "one price" system, yet as this business is too often conducted, Conscience is only in the way, and a practical, active organization rather than one of power or depth.

MECHANICS require strong constitutions, with a predominance of bone and muscle, to give them the required muscular power and love of labor, and enable them to endure it, as well as to impart strength

and durability to their work ; large Construction and Imitation, to enable them to sharpen and use tools with dexterity, make after a pattern, and easily learn to do what they see done ; large perceptsives to give the required judgment of matter and its fitness and physical properties ; the larger Causality the better, so that they can take advantage of their work, plan, adapt means to ends, contrive, " make their heads serve their hands," invent, begin at the right end, and know how to take their work ; large Firmness and Force, to give them that resolution, and indomitable energy requisite in overcoming that perpetual array of obstacles in all kinds of work, and accomplish what they undertake ; large Computation to enable them to make all kinds of calculations requisite in their several branches of the mechanic arts ; large Order, to keep their tools all in their places, and to impart method to both what they do and how they do it ; Beauty greater or less according as their work is fine or coarse ; full or large Acquisition, to interest them in what they do, render them saving of materials, and economical of both time and property, as well as good at bargains, and desirous of making property, and other organs according to the particular branches they may follow.

THE LIGHTER KINDS of mechanical avocations, such as goldsmiths, tailors, and the like, require less muscular strength and power than builders, whether of houses, ships, bridges, and other heavy works which require great durability and resistance. Indeed, such should not have a large vital apparatus, because it will render them unwilling to endure the required confinement. They also require more of that taste imparted by Beauty. Shoemakers, on the other hand, should possess strong constitutions, yet do not necessarily require much Beauty, or Imitation, or Causality, but require Inhabitiveness, to make them love their benches as their homes. But the reader can easily carry out these differences for himself.

ARTISTS require a highly organized Temperament, one exceedingly fine and active, as well as pure and elevated, the mental-vital being the best, together with very large Form, Size, Imitation, Construction, and Beauty, to enable them to draw and copy to life, and also impart taste and finish to their productions ; large Order and Perceptsives generally ; large moral sentiments, to impart moral tone and elevation ; full or large Ambition, to make them ambitious and emulous to excel ; and large Comparison and Intuition. In other respects they require the developments requisite for mechanics, except that Computation and Destruction are not indispensable in most of the fine arts.

PAINTERS require, besides the organs requisite for artists, large Color, to enable them to judge of, mix, and apply colors with accuracy and beauty; large Mirth and Expression, to enable them to amuse their customers, and thus give them a pleasant expression of countenance for transfer to the canvass; predominant Imitation, to render their pictures life-like; and especially large Beauty, to give an exquisiteness and air of elegance to both the coloring and the entire picture. Love should also be large yet unperverted. They require a rare organization. Many can draw, engrave, and the like, yet few can PAINT.

FARMERS require the motive, or the motive-vital, or vital-motive Temperament, to make them fond of work, and enable them to endure it; large Construction, to enable them to use farming utensils; large Inhabitiveness, to make them love their farms, and be contented at home, with Ambition, to make them take pride in improving and adorning it; large Parental Love, to make them fond of children and of feeding and rearing animals, and improving their breed; large Friendship, to render them neighborly and obliging; a good Intellect, to give them the intellect requisite to manage and arrange matters, and dispose them to improve rainy days and odd spells in study; large Acquisition, to render them frugal, industrious, and thrifty; large Order, to keep all their things in place; and a good development of the perceptive Faculties, so that they can judge accurately of land, crops, stock, and the value and uses of things. The developments requisite for good farmers do not differ essentially from those requisite for mechanics of the heavier kind of business.

GARDENERS require a similar organization, with larger Beauty, Form Size, and Color.

ENGINEERS require much the same organizations as farmers and the heavier mechanics, and especially, large Form, Size, Constructiveness, and Caution. In addition, civil engineers require in particular large Computation and Locality; and mechanical engineers require fully developed Weight, and the vital motive of Temperament.

SEAMEN require strong constitutions; a predominance of the muscular and vital Temperaments; great Force, Destruction, and Firmness to give force of character, intrepidity, courage, and presence of mind in times of danger; large Caution, to render them safe; large Appetite to enable them to relish plain food; large Perceptives, especially Form, Size, Weight, and Order; and commanders require efficient Causality.

LANDLORDS AND BOARDING-HOUSE KEEPERS require the vital, good-natured, enjoying Temperament, so as to contribute to the happiness of all around them, and take vexations coolly ; large Friendship, to keep their customers by making them feel at home, together with large Kindness, to render them kindly disposed, attentive to the wants of guests, and willing to serve ; fair Acquisition, in order to make a living ; larger Ambition than Dignity, to render them more complaisant and familiar than distant and haughty ; large Love, to render them polite and acceptable to the other sex ; and more especially large Appetite, to render them good caterers for the table, because those who love the good things themselves will both know when things are good, and insist on having them good, the great secret, after all, of getting and retaining this sort of custom, while cooks also require large Appetite to give them a relish for savory dishes, in order to induce them to make food palatable. Those who have it small have no success in culinary matters. They also require large Acquisition to "save the fragments," if it is only with which to feed the poor. A leading element of a good housekeeper is being a good cook, that is, having a hearty Appetite.

PRINTERS require full or large Continuity, to enable them to keep steadily at their work ; full or large Acquisition, to give them industry ; large Construction, to give them manual skill and dexterity ; large Form and Size, to render them correct in spelling and good proof-readers ; large Order, to keep things in their places ; good Computation, and the more Intellect the better.

MILLINERS, SEAMSTRESSES, FANCY WORKERS, ETC., require much activity to impart industry, nimbleness, and dexterity ; large Continuity, to facilitate their steady application to the matter in hand ; large Construction, to give them the required "sleight of hand," "know how," and skill in all kinds of sewing ; large Imitation, to enable them to make after patterns ; large Beauty, to give an air of neatness and taste to their work when it is done ; good Form and Size, to aid them in fitting, and making garments sit well ; good Acquisition, to render them frugal of materials, and enable them to cut in as saving a manner as possible ; and fair Intellectuals, to enable them to bring mind and judgment to their tasks. The finer the work the more Construction, Beauty, Imitation, Form, Size, Color, and Order are required. These, together with a quick and vigorous Intellect, are particularly requisite in milliners, mantuamakers, and the like who conduct business.

OPERATIVES require amply developed Construction, Weight, and Continuity, along with good general health. Females should neither sew nor work in the factory for a livelihood till past thirty; or, till their constitutions are fully matured.

THESE SAMPLES furnish data from which to decipher the organizations required by other occupations. Yet Firmness, Kindness, and some others, should always be amply developed, be the occupation what it may. The more intellect the better, in all kinds of business, because mind facilitates the accomplishment of whatever we undertake. High moral sentiments, too, should be possessed by all, whatever be the avocation; nor should any business be prosecuted which is incompatible with their required ascendancy. Though some pursuits are impeded by a full development of some organs, as mercantile by large Continuity, and thus of some others; yet such exceptions are rare, and the general rule is that the larger any and all the organs, the better for any and every occupation. Yet some organs are *indispensable* to success in some pursuits, while others may be deficient without essential injury. None can engage in any pursuit for which they are not naturally qualified, without both failure and disgust; for we like those pursuits for which we are naturally fitted, and dislike those for which we are not. And those who are qualified for particular avocations, should not only engage in them, but also habitually cultivate those Faculties required by their respective callings, in order thereby still farther to perfect their capabilities and enhance their success and happiness.

283.—WHAT CONDITIONS GUARANTEE SUCCESS, AND CAUSE FAILURE.

CAUSE AND EFFECT governs life's successes and failures as effectually as crops, tides, and everything else. Those succeed and fail who *deserve* to. Some are forever unfortunate, because they are perpetually doing what *causes* their failures; whereas those who are always "in luck," are fortunate because always doing those precise things which effect their good fortune. As farmers get the better crops in proportion as they apply the conditions of vegetable growth; so of all life's successes and failures. Then *what* are the causes and conditions of success and failure, that all may apply the former, and avoid the latter?

EARNESTNESS is its first paramount condition. Enthusiasm is its trump card. One must become "*half cracked*" on anything in order

to become thoroughly successful in it. In other words, *work* gives success, and enthusiasm begets work. Those work with might and main who *desire* what they work for with their whole souls. Heart begets effort, and interest heart. This is only that identical "action" which Demosthenes pronounced the first, second, and third condition of eloquence. By action he obviously meant earnestness, and soul; which is the paramount condition of piety, of money making, of scholarship, of farming, of whatever we would do, say, and become. A speaker to speak well must exaggerate, be highly figurative, overdraw his picture, and say twice more than he really means. To bring others up to his mark he himself must exceed it. Enthusiasm impresses by tongue, by pen, and in action. One had better say and do nothing than say and do tamely, easily, "shiftlessly." Intense desire sharpens up Causality to lay the best plans possible, all kinds of memory to recollect and attend to everything; all the muscles, all the nerves, in short, the entire man to put forth those cause and effect *efforts* which become the only means of success. No lover need ever expect to succeed in winning the affections of his beloved any farther than he thoroughly loves her, and this love prompts and inspires those actions and sayings which, springing from his full heart, go right to hers, and awaken a return of this tender passion. To succeed in raising stock, one must *love* stock. To become a noted scholar in any department, one must be passionately fond of that specific study. To make a husband or a wife worth having, that is, to succeed in marriage, one must first be dotingly and heartily attached to a conjugal partner. In short, an enthusiastic interest, and that whole-souled *effort* thereby prompted, are to all life's successes precisely what foundation is to house, steam to the machinery it propels, and breath to life. Those who lack it need not expect, and do not deserve, to succeed; nor any farther than they possess this *sine qua non* condition of all efforts and their fruits.

A GOOD TEMPERAMENT, good health, activity of body and mind, and many like physical conditions underlie and create this enthusiasm, and therefore become means of success. How important the part health plays in putting forth and sustaining effort, thus becomes apparent. How can one succeed without doing, or do without health, or even enjoy attained successes?

EVERY POWER of body and of mind thus becomes a means of success in every thing, by contributing its quota to this grand result, and the absence of any leaves but that much defective, and success

that less complete. We have already illustrated the *principle* which governs here in showing how much a concurring Conscience promotes, and an opposing one paralyzes effort,²²² and here state and apply the great *law* there involved to every other Faculty in man. Firmness is an indispensable prerequisite of success: so is Force; so is Prudence, and likewise Hope. None will ever attempt what they do not expect, nor reap till they have *waited* after sowing for their crops to grow and ripen, nor sow or reap without overcoming one perpetual round of obstacles, nor succeed if they carelessly upset their plans or spoil their efforts. We have already seen how essentially Kindness and Friendship contribute to success,^{13 179} while "Sexual Science" shows how perfectly magical are the inspirations of a genuine love and happy marriage.³⁴⁸⁻⁴¹¹ Those unloving and unloved scarcely care or try to succeed, nor is their success or failure half as important as where two or more share either. To succeed one must *work*, and to work hard and well, must have some powerful *incentive* of which the loves, parental as well as conjugal, are the most potential known to man or woman. Celibates both succeed less, and have none with whom to double their successes by their mutual enjoyments. Family ties inspire successful efforts.

OMISSIONS detract from successes, and sometimes prove fatal. Thus, how could one succeed well without laying good plans? One may work ever so hard on poor plans only to work in vain. The upward and frontal position of Causality in the head only shows how important the part it plays in all life's pursuits,²⁶⁸ and how fatal its deficiency. Let many of the reader's own mortifying failures consequent on poorly devised ways and means show how important it is, that all *think* before and after they begin, and think and plan well. Of the *aid* and the want of the various kinds of memory this is about equally true, in *principle* if not in degree, and we have already seen how much power of Expression aids in talking our views into others, and talking their money into our pockets.

THESE ILLUSTRATIONS show how important the contribution of each Faculty and power is to the great stream of life's successes, each resembling the various branches of a great river, by each adding to the volume of its waters, and the rapidity of its current; and the omission of any even absorbing that of the others in backwater. That balanced or proportionate action already demonstrated⁶³ applies with redoubled force to life's successes, and the want of it to its failures: but its application to the point in hand is apparent without amplification.

EXCESSIVE organs spoil successes about as often and fatally as defective ones. Excessive Caution is especially paralytic, the more so when Hope is deficient; but no worse than Hope in excess, with Causation deficient. Weak and excessive Acquisition about equally thwarts success, the former by forestalling the means or capital with which to begin enterprizes, and the latter by "withholding more than is meet," overreaching itself, and preventing investments. An excess of Appetite clogs and beclouds all, while its deficiency fails to feed and sustain all. But amatory excesses probably blight more life prospects than any other, by both exhausting and fevering all, besides consuming the dollars needed to promote success. Those who would run well must first "*lay aside every weight*, and the sins which so easily beset" and ensnare.

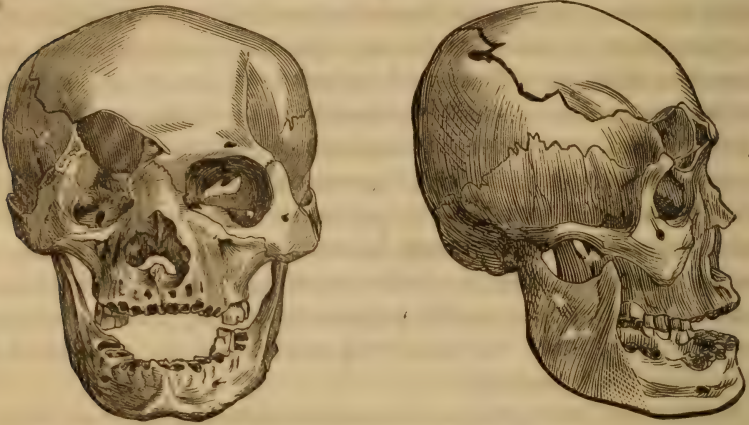
SCRUTINIZE YOUR HEAD and character thoroughly to see wherein you have any of these drawbacks and causes of failure, and obviate them first, and then train all your Faculties to draw and travel lustily *together* in the team and on the road chosen, and whip up all laggards. Want of Conscience is especially fatal, for reasons already given. And if you find yourself every little while striking some snag, or the victim of some disappointment or failure, depend upon it, the cause is *of* and *within* you. Or if they seem to come from others, see what there is *in yourself* which makes them treat you thus. "Luck" is always *caused*; so is lucklessness; and the latter is avoidable.

284.—THE PHRENOLOGY OF MANGAS COLORADO, OR RED SLEEVE.

THE SKULL given on the next page was presented to the Author by Surgeon D. B. Sturgeon, who saw this Indian a few minutes after he was shot, and prepared this skull expressly for me, so that its identity is thus assured. It is one of the best contributions to phrenological science possible to be made, for which every reader will doubtless join the Author in thanking the donor.

IT IS THE SHORTEST AND BROADEST human skull I have ever seen, excepting one or two from the Isthmus of Darien, and actually wider than it is long! It bulges out at its side in the region of Secretion, Caution, and Destruction, beyond anything I ever saw. Cunning is his largest organ, and far exceeds any other development of it I have ever seen, even in any and all Indian heads. It is simply monstrous. Yet Destruction also far exceeds any other development of it I ever saw. In Blackhawk, and Me-che-ke-le-a-tah it

SECRECY, FIRMNESS, DIGNITY AND WORSHIP LARGE, AND KINDNESS SMALL.



No. 212 AND 213.—SKULL OF MANGUS COLORADO, OR RED SLEEVE.

is very large, but is much larger in Red Sleeve. His head says that as a scout and spy he had no equal.

AMBITION AND DIGNITY are both large, as seen by the rise of his head at its crown, while Firmness is still larger.

CONSCIENCE AND WORSHIP are unusually large, both absolutely and relatively, which coincides with the scrupulous fidelity with which he kept his promises. He doubtless thought he was but doing his duty in avenging the injuries white men had done to his tribe, by torturing and killing them. He must also have been a devout worshipper of the Great Spirit, and extremely superstitious. Benevolence is very poorly developed indeed.

HIS PERCEPTIVES are also developed to a most extraordinary degree. See how really immense he is between his eyes, and from one cheek bone to the other. This coincides with his known power of telling from a height ten miles from the stage station, all going on there at any time. All his other percepts are also simply immense. But

HIS THIN DELICATE SKULL and consequent fine-grained organization was his specialty, next to his Secrecy. Very few white men, not even many white women, have a skull equally thin, or organism as delicate as his. Indians generally have thick, coarse, heavy skulls; while his is light, thin, and peculiarly fine-grained.

HIS UNDER JAW however is monstrous—probably because he used it in eating a great amount of dry hard meat, for meat dries, but never decays, in his locality.

AS A WHOLE, I have never seen anything even in any Indian head which bears any comparison with his as to Cunning, Destruction, or the perceptive. The family organs are only fair. Let us look next at his mental characteristics.

"RICHARDSON'S TOUR across the Continent" mentions this identical Indian to this effect. A stage driver once got the advantage of him, and drew and cocked his gun, and thus extorted Red Sleeve's solemn promise that he and his stage should run, molested by neither him nor any of his tribe. And they never were, though traveling among them perpetually.

285.—"HUMAN SCIENCE," AND ITS AUTHOR.

HAVE ITS INTRODUCTORY PROMISES been fulfilled? Have they not? And more? At least its opening expectations have been more than realized. Of course it is improvable, as is every page ever written. More labored descriptions and combinations of the Faculties may at first sight seem to be required, yet that complete analysis and rationale of each Faculty which precedes them, gives so full an idea of each as to require little else in order to render the office and outworkings of each easily and fully understood.

ITS DETAILED HEALTH prescriptions for the application of water and other restoratives to the cure of specific ailments obviously require amplifying, and, as neither water-cure nor remedial practice is in the Author's line, he has obtained from one of the *oldest and very best* water-cure *practitioners* in this country or any other just such detailed prescriptions as supply this need, which will be found in an Appendix. *Every one* of them may be trusted. The large experience, and the commanding natural talents of their compiler, warrants the Author in endorsing them fully; especially since they accord perfectly with his own views and experience.

PHRENOLOGISTS are respectfully requested to compare this work with that of Gall, Spurzheim, and Combe, and say whether it is, or is not a genuine *advancement* on all previous phrenological authorship and writings. Please compare its breadth and scope, its presentations, and application of first principles and facts, its proofs and teachings, its veritable SCIENCE OF PHRENOLOGY with all former presentations of this highest and noblest of all the sciences, and then say whether it does not well earn and richly merit your *gratitude* to God and its Author for that phrenological *progress* it embodies; and then "give honor to whom honor is justly *due*." Add to this Science of sciences, you who can.

ANTHROPOLOGISTS! find you in it no new scientific *meat* not before served up? Does it not push the first principles of human life and science a little farther upwards and forwards than anything ever before published? What say you to its *gelatinous* or pulpy theory of the *modus operandi* by which brain and nerves act, and mind and sensation manifest themselves? *That* theory will bear scrutiny.

SAVANTS, THINKERS, PHILOSOPHERS, each and all, how much mental *provender*, food for reflection, and incentive thereto, find you in its pages, as compared with any other volume on man? And don't, like your wiseacre predecessors, hug those old theories it explodes till your successors see how blind, bigoted, and foolish you were in ignoring truth; and admit or else refute its positions. *Defend your Newtonian theory*, or else abandon it, and admit its doctrines of the circulation of the blood, unless you refute them.

THEOLOGAINS, crack its nuts of total depravity, and the reformatory, not vindictive, aspect of all pain, all punishment, and that, sooner or later, it *will reform and save* all mankind, and thus abrogate *eternal* burnings or break your teeth on it. And you will find several other nuts to crack, and files to gnaw.

DOCTORS, say whether its theory that all pain is a *curative* process, that all fevers are *ipso facto* remedial and restorative, and even *consist in burning up* corrupt matter in the system, is true or false, and doctor accordingly; and all patients, all your present sufferings enhance future enjoyments. Know each and all that *pain* is a blessing, and death itself a luxury to be craved, not curse to be dreaded.

DOUBTERS OF GOD AND IMMORTALITY, is not here plain, common sense, absolute, *scientific* demonstration of the existence of both, and a solid rock on which to build a rational system of natural theology and ethics?

LOVERS OF GOD, find you anywhere any stronger motives, promptings, and inspirations to love and worship God than here? Does not every page of Part IV. deepen and widen your river of true genuine piety and goodness? If it upsets some dogmas, does it not far more than supply their place by something better, and more intellectual? Does it not render your ideas of God and His government far more distinct and real than they were before, and redouble genuine piety?

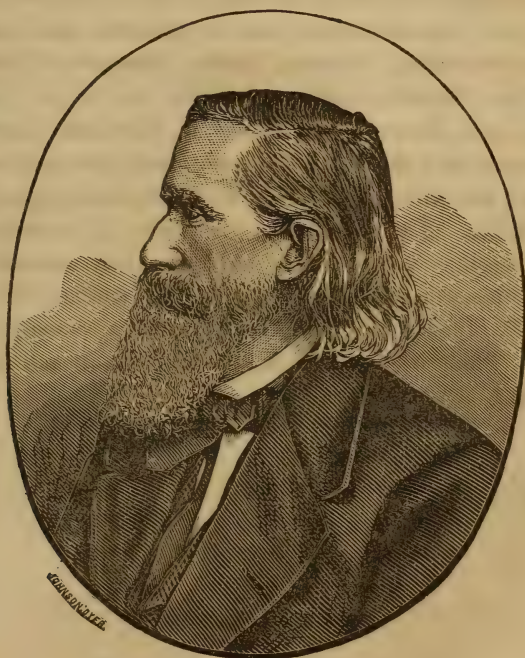
LOVERS OF IMMORTALITY, does it not give you a *scientific* aspect of a future state in place of a mystical suppository one, and make it and its surroundings a tangible reality?

LOVERS OF HUMAN EXCELLENCE, does it not both analyze life

itself, that first problem of existence, and show how to improve each of its parts, and of course life itself? What are its guidings and incentives to a higher, better life worth? How much more can you make out of yourself, your powers, your being, than if you had not read it?

READERS ALL, what will you take and allow all its directions, philosophies and truths to be blotted forever from your minds, along with all power of their future acquisition? and your answer shows how much more it is worth than it costs.

COMPOSITORIAL HASTE impairs some of its passages, yet others, for depth of philosophy, originality and profundity of thought, cogency of logic, and life-long practical utilities, will bear comparison with any composition, in any books, in all languages. They speak for themselves. What other book embodies as much wholesome truth as applicable to human improvement and happiness?



PROF. O. S. FOWLER.

A LIKENESS of its Author may please some readers, and enable all to see how far his "developments" correspond with his productions. It at least shows that desire to do good is its largest organ, and

readers can judge whether every page and paragraph breathes forth a wish to *improve* every reader. It certainly evinces that high, long, and narrow form of head which indicates a predominance of the moral, intellectual, and good over the animal and selfish; while its Temperament is precisely such a one as the work itself gives as a model of the thought-writing organism. Let its moral, its affectional, its intellectual lobes speak for themselves, and the likeness as a whole say what must needs be the character and the talents of one having this phrenological organism.

NOT MUCH MORE will be seen or heard from O. S. Fowler, at least for the present. This and its twin volume, "Sexual Science," finish that great life labor I have for thirty years past proposed to do, and felt a woe upon me in case I did not. That woe is hereby discharged. If I can yet do the *travelling* requisite, I think to inspect the *phrenologies* of all the nations and peoples of earth's teeming millions, and put their phrenologies and customs side by side; of course embracing likenesses of the representative men of orientals and occidentals, islanders and continentals, Tartars, Parsees, Japanese, Chinese, New Hollanders, New Zealanders, Kamtschatkans, Kalmucks, Hottentots, and Siamese, Cape Horners and Bushmen, Mexicans, Indians, and their subdivisions, and especially the noted men, past and present, of our own race; but this great labor is yet somewhat problematical, however desirable. Time must show whether it becomes a reality. Meanwhile, begging to be kindly and pleasantly remembered and spoken of in this world and the next, by all whom either of these volumes benefits, their Author bids every reader a *personal, individual*

GOOD-BYE. May we meet again HEREAFTER, if not here. GOD BLESS YOU ALL INDIVIDUALLY!

APPENDIX.

286.—WATER CURE, AND OTHER PRESCRIPTIONS FOR CURING DISEASES.

§ 1. COLD PACK.

SPREAD two or three blankets on a bed, then wring a sheet from cold water, so as not to drip, and spread upon the blankets, and upon this the patient is to lie quite straight and upon his back. Then raising his arms, one side of the sheet can be brought *quickly* around close to the body, and the arms laid upon it, and the other side of the sheet brought over the arms. Then cover, first with one blanket, then the other, being careful to have it fit well about the neck. Over all put other clothes till you are SURE the person will be warm. If the feet are habitually cold, put bottles of hot water about them. Let them lay twenty or thirty minutes for a tonic effect, and one hour for chronic bilious derangement. Rub over with a cold wet sheet, or wet towel, the instant they are released; and then rub dry, and hurry out to exercise if the patient is able; if not able, cover *warm* in bed, and lay till warm and glowing.

In packing about the neck, take the corner of the first blanket on the patient's right side in your left hand, and draw it down straight toward the feet till it fits closely to the neck; then, while still holding the corner with your left hand nearly over the stomach, take hold of the loose fold of blanket with your right hand, and bring it over your left hand close to the patient's left ear, and tuck it in over the shoulder. This will then be close about the neck: proceed in same manner with each blanket.

Caution.—Never let a person remain chilly after ten minutes. Warm them in some way, or take them out and warm them.

§ 2. HOT PACK.

IS ONE of the most important of all processes, and most powerful and efficient when rightly administered.

Proceed exactly as in the Cold Pack, except to have a thin woolen blanket to wet. Let your patient be entirely undressed so as to lie down the INSTANT the wet blanket is put upon the bed. It will be too cool in thirty seconds. Have your blanket in straight folds, so as to go readily through a wringing machine and lay it in a tub so that it can run through the machine without tangling. Pour on boiling water,

and *as quick* as possible, have it on the bed and your patient wrapped in it, proceeding with dry blankets as described in Section 1.

This pack should give quite a hot sensation for an instant, and that will secure powerful reaction.

After 30 minutes uncover one foot at a time, and rub with the hand wet in cold water, and rub till dry, when much of the dead cuticle will rub off; and the more the better. Rub as far up the leg as possible, without loosening the blanket much, then cover that foot carefully and rub the other. Then take the arms and next the breast and abdomen, uncovering *as little as possible* at a time, and covering as soon as the scarf-skin is rubbed off. When feet, arms, breast, etc., are rubbed, let some one swing the feet off the bed, while you raise the head so that the patient can sit on the side of the bed, *still covered*. Then open, and rub the back *VERY thoroughly*, rubbing off all the cuticle possible. Lastly, wash all off with towel wet in cold water, and rub till perfectly dry and red.

Caution.—Let no feeble person give a hot pack; it exhausts the operator, but is a very efficient aid to the patient, especially to relieve a hoarse cold or inflammation of the lungs.

Sponge the patient next eve in hot soap suds or saleratus and water, and then wash off quickly with towel wet in cold water, and rub very dry.

An india-rubber sheet between the dry blankets adds much to the efficacy of this pack, as it confines the steam about the person.

This pack will be much more efficacious if one fasts from one to three days, not taking a particle of food. This is safe and salutary.

§ 3. WET GIRDLE.

FIVE yards of light and narrow crash will make two girdles. Wet one yard of one and put round the body, bringing the dry end over the wet. Change on rising and retiring, and if possible at 11 A. M. and 4 P. M.; though it will do no harm to wear the same one twenty-four hours. Expose each girdle as much as possible, when off, to the sun and air.

This can be worn night and day, and will promote the action of skin, liver, stomach and bowels, and is some mechanical support during the day.

§ 4. A COLD COMPRESS

Is a cold wet cloth covered with dry, applied locally as for rheumatism in the knee or wrist.

§ 5. HOT COMPRESS

FOLD flannel so as to give you four to six thicknesses, four inches wide by ten long. Have two, and wet in water as *hot as can be borne*. Cover with dry, and change at first every minute, and be careful not to be too long changing. Let the last remain on, and, if upon the stomach, the patient should keep very quiet afterward, as this is very relaxing.

§ 6. HEAD BATH.

LIE down on the floor with a pillow under the shoulders, and lay the back of the head into a basin of cold water. Remain five minutes, and have some one rub the fingers through the hair.

§ 7. COLD FOOT-BATH.

SIT ten or fifteen minutes with feet in cold water, not over *one inch deep*. Rub dry, and, if they are likely to remain cold, plunge into hot water, and again into cold, once or twice, *always ending with cold*.

§ 8 HOT FOOT-BATH.

SIT twenty minutes with feet in water as hot as can be borne, and deep as convenient. On taking out, rub with cold, wet cloth, and then rub dry.

§ 9. SALT FOOT-BATH.

PUT a pint of salt in a pail full of water while boiling, and let it continue to boil a few minutes. When cool enough, soak the feet twenty minutes. The deeper this is the better, and a simple mixture will *not have equal efficacy*.

§ 10. SITTING BATH.

SIT in water, deep enough to cover the hips when the feet are outside the tub, and sit five minutes for mere tonic effect, and thirty when it is desired to relieve the head or strengthen the uterus. A wash tub with one side a little elevated will do for this, but a regular Sitz bath would be better, and very convenient in any family.

§ 11 RUBBING SHEET.

A RUBBING sheet is given with a sheet more or less wrung, over which one briskly rubs, sometimes spitting with the open hand, when it is desired to stimulate the skin more fully. This is a convenient form of bath, and the most safe, as it can be so quickly given, and can be given at the bedside, and with but little water in the sheet. It may be repeated three times in a day, when you desire to stimulate the skin a little and often.

A dry sheet is always better than towels to wipe dry with, except that it is well to rub a little sometimes with coarse wet towel, especially the back.

§ 12. DOUCHE BATH.

A DOUCHE bath is a large or small stream of water falling from a height; a very valuable form of bath and pleasant to take, as it is very stimulating, but usually only available in hydropathic institutions.

§ 13. PLUNGE BATH.

JUMP into cold water and out as soon as possible. Rub thoroughly dry and exercise at once.

N.B.—The shower-bath is the most objectionable form of bath, and should not be used by any invalid. Next to that the tepid bath has little merit. If too weak for cold bath, take quite hot, and follow with cold rubbing; or rub with cold wet towel but little wet.

THE HEAD.

WHATEVER may be the difficulty involving the brain, the eyes, ears, teeth, or any of the membranes of the head, begin with the treatment of the bowels, stomach, and feet, which I have named in the order of their importance. Many a headache or ear-ache has been unyielding to the course pursued, only because the bowels were inactive. In any affection of the head, a very full injection of tepid or cold water will afford some relief. So will a hot foot bath, followed by friction with a cold wet cloth, and a wet girdle over the stomach and liver. Even when there is no apparent relief, these measures are important, and will aid any other means used, and never injure. The above will be just as valuable in connection with other remedies as when nothing but water is used.

HEADACHE.

If the pain is in the front part of the head, use the above means, and take a cold head bath (§ 6). Ginger, sage, or common tea, sometimes affords present relief, or eight or ten drops of spirits of camphor in water.

If the pain is in the back part of the head, sitting baths (§ 9) and injections are most valuable, with something warm in the stomach. Whatever ails the head, it is well to shampoo with a little ammonia and water, so as to cleanse the scalp thoroughly and stimulate a little.

If the pain is through the whole head, and bad, shampoo, and then have very hot compresses (§ 5) applied over the stomach, changed as frequently as possible at first, and as many as 6 or 8 applied, the last to remain on, and the patient remaining very quiet, as this is quite relaxing. Better lie in bed for this, and remain there.

WEAK EYES.

AVOID *treating the eye directly as long as possible*; and, to strengthen, use the head bath (§ 6), and rubbing with ice on the top of front part of the head. Strengthen the whole system by general treatment; full breathing.

If there is inflammation, the pack, girdle, Sitz bath, and foot bath will each tend to DRAW IT FROM THE EYE, and this should be done if possible. Secure regular evacuations of the bowels, and use only the mildest and most soothing applications to the eye—tepid water or milk and water. The whole face may be washed in cold water, but better not put cold compresses upon the eyes.

EARACHE, OR SORES IN OR ON THE HEAD.

Do all you can by general treatment. Wear the girdle all the time (§ 3), changing four times a day. Unless the pores in the skin are well open, fast 24 hours or more, not taking a particle of food, and follow with hot pack (§ 2).

This will open the pores, and lead the circulation away from the head more than any treatment under any system of practice.

Then follow with cold packs once or twice a day with the girdle and

foot baths, and you will draw morbid matter away from the head. Make no application to sores, but warm soap-suds to cleanse, till you have thoroughly tried the above.

INFLAMMATION OF THE BRAIN.

CLEANSE the scalp with ammonia and water, and then keep the head damp with tepid water, and let it evaporate and gently cool the head. Do all in your power by general treatment to draw blood from the head as directed above.

Covering the head with a cold wet cloth is seldom best, and the use of ice, except when other means fail, is decidedly objectionable. It brings on too much reaction, drawing the blood to the head as snow-balling does to the hands. Better rub the spine with ice wrapped in a cloth, till the skin is very red.

When the hair falls out, cleanse the scalp with ammonia and water, and then bathe the head three times a day in the coldest water.

To induce sleep, wear the cold wet girdle at night. If wakeful and nervous, apply hot fomentations (§ 5) over the pit of the stomach, six or eight times in quick succession. If it continues, have a cup of cold and strong tea by the bedside, and drink as a last resort. This stimulation almost always proves salutary, but must not be relied on too long. Do not take the tea at supper time, nor before retiring, but ONLY after being wakeful for some time.

HYPOCHONDRIA.

It is very important that the bowels should be evacuated daily, and the patient sleep. For the latter, the hot compress over the stomach will sometimes work wonders, and sometimes the patient will sleep in a cold pack, and if so, let him *remain as long as he will*. He should wear the girdle constantly, and take foot baths of all kinds, and a sitting bath daily, if he will. Animal magnetism is sometimes a valuable auxiliary, and hence the treatment should be given by the person to whom the patient is the most attracted.

The hot compress will sometimes be very salutary to give at 11 A. M., and let the patient sleep a little then. This is also the best time to give the cold pack, which sometimes induces sleep.

TOOTH-ACHE.

HERE even the hot fomentation and general treatment will alleviate some. So also rinsing the mouth with hot or cold water, sometimes with both. But as tooth-ache comes from carious teeth, no treatment will cure it. Keep on hand a bottle containing a little alum dissolved in ether, and soak a pellet of cotton in this, and press into the hollow tooth.

CATARRH.

THIS is a very obstinate and troublesome difficulty, and it is important that those persons afflicted with it realize that if the SKIN is kept in perfect action, a person will not have this trouble on the mucous membrane. But, when the pores of the true skin are closed,

the mucous membrane must be more active. If a hot pack of three-quarters of an hour were given as directed (§ 2), a large part of the cuticle or scarf skin could be rubbed off, and the person would see what caused the disease, and would experience some relief. No treatment will be efficacious, unless the pores of the skin are opened in some way. Do not expect any relief from snuffing up tobacco or other powder, or even water, until the skin is made healthy.

Treatment.—If possible give a hot pack after at least thirty-six hours' fasting, without taking a particle of food, but drinking water freely. Then have the most thorough rubbing (§ 2), being careful to uncover but little surface at a time, and re-covering as soon as rubbed.

Wash off thoroughly with cold water, and, on retiring, with hot soap-suds. Then wear the girdle, and take cold packs (§ 1). In other words, keep the skin active by any and all means. Then bathe the face and neck with the coldest water, and if it does not improve after one week, snuff up water (cool but not too cold) through the nose, three or four times a day.

The most powerful of all remedies known to the writer for immediate relief in colds, lung disease, and in beginning to treat rheumatism, is the hot blanket pack. It must be given as hot as can possibly be borne, wrung out of boiling water, the patient being undressed and ready to lie upon it at once, and be covered; as it will be too cold in thirty seconds. Remain twenty or thirty minutes, and let some **STRONG** person wet the hand in cold water, and uncover a little at a time, beginning with one foot, and rub till dry; and, as soon as you have rubbed off all the scarf skin possible, re-cover and proceed to another part, till most of the skin has been rubbed. Then let the patient sit up still covered, and take a cold wet cloth, and gradually rub the upper part of the body till clean and dry. Then put on the flannel and rub the legs in the same way. Rewet the cold cloth often. Let no weak or stupid person give a hot pack.

FEVERS.

WHENEVER a person begins to be feverish, mix a teaspoonful of aqua ammonia with a tablespoonful of sweet or lard oil, and rub over the whole body, and then wash off with quite hot saleratus water or strong soap suds. This will prevent that dryness of the skin which is so troublesome in fevers. If, then, you follow up with *frequent* tepid baths, or rubbing with wet towel, say as often as once in one or two hours, ANY FEVER will be moderated no matter what system of Medicine is pursued. If cold packs can be taken it will be still better.

SMALL POX AND OTHER ERUPTIVE FEVERS.

TREAT as above, and then wrap in a sheet, wrung out of cold water every six hours, for small pox, and change the clothing and sheets, putting them under water in the sick room, and just rinse out and hang on the line. This is of *great* advantage to the patient, and will often wholly prevent contagion.

The eruption can *always* be brought out in measles and scarlet fever, by the alternation of hot and cold applications to the skin, and usually by packing the patient in sheets well wrung from cold water, and

repeated in fifteen or twenty minutes, rubbing the patient gently, with a cloth wrung from cold water between the packs. Any one who remembers the effect of snowballing on the hands will see the philosophy of this. It will also allay the fever, and prevent delirium.

BURNS.

EVERY family should keep a little linseed oil and powdered chalk; and, if a member of the family is burned or scalded, mix them together, and add vinegar enough to cause effervescence, and immediately apply with a feather before the skin is broken. Continue till perfectly covered.

BROKEN BONES.

WHEREVER there is a fracture or dislocation, immediately cover the parts with a cloth wet in cold water, and cover or change the cloths as is necessary to keep the parts naturally warm till you can get medical aid. There is no danger of taking cold, and most of the pain and difficulty of setting come from inflammation, which can be kept down entirely by wet cloths.

CORNS.

THE writer was much troubled with corns for many years, and they all disappeared while taking water treatment for rheumatism, and nothing of the kind was seen for years.

Draw on cotton stockings, wet them a little and cover with woolen stockings, and have cold water ready to plunge them into as soon as uncovered in the morning. Continue till cured.

COLD IN THE HEAD.

WET the hair on the top of the head and then cover it with a wet towel folded cornerwise, and cover the whole head with flannel and keep covered till uncomfortable. Then chafe the temples and back of the ears and neck with a cloth wet in ice water. Have the cloth very cold, but not very wet. Then do all you can to increase the circulation in the lower part of the body.

INFLAMMATORY RHEUMATISM.

COVER all inflamed joints with cloth wrung from cold water, and change often. Move the joint all you possibly can, and rub with the hand as much as can be borne, every time it is uncovered.

ERYSIPELAS.

THIS should class with the fevers, but in reality it is a symptom accompanying any fever or inflammation. It may be known by great

redness, rapid extension, and excessive heat; the last two making it dangerous. It is often communicated from one member of a family to another by using the same towel, soap, etc.

Its rapid extension and burning heat may as surely be arrested by a frequent use of water, as a fire can be checked, if you use enough. Nor is the form in which you use it so important, if you only keep the *whole* system at its natural temperature. Keep the bowels open with some cathartic, or far better, by *frequent* injections, and bathe in tepid water, or take a cold pack once an hour if necessary, and apply local compresses to the parts most affected. Do not allow any feverish heat. No danger if you keep cool.

HIVES.

ALL diseases of the skin are indications that disease is being thrown from the vitals, and we should help Nature rather than "*Drive it in.*" The best thing by far to be done, when there is any eruption, is to use the cold pack at least twice a day, and, if there is fever, ten times a day, if so much is required to reduce the fever. Keep the patient in the pack twenty or thirty minutes, usually, though, it will not harm them to be in an hour. On taking them out, rub quickly with cold wet cloth, and then rub well with dry. In these cases the wet girdle is very good, and no matter how much eruption comes out under the girdle, the more the better. Wash occasionally with hot saleratus or soda water. It will open the pores and cleanse off the perspiration.

CROUP.

IN this fearful disease, do not begin at once to heat up the head and throat with poultices and fomentations, under the impression that the child has taken cold, and therefore, the more you can oppress it with heat the more you neutralize the cold. A good rubbing all over with a cloth wrung from ice water or snow water, with most rubbing about the legs will be far better. Do not have much water in your cloth, but have it cold, and get the legs and feet red with hot foot baths, followed with cold rubbing, and rub but little about the throat till you get the best circulation possible in the extremities; then put a very cold cloth, well wrung, around the throat and cover well, so as to secure good reaction. Repeat as soon as it is thoroughly warm, till you secure relief.

TIC DOLOREUX, OR NEURALGIA.

THIS troublesome malady is becoming more frequent each year, and cannot be treated with the best success unless the patient understands the conditions and causes of the pain which so distresses. It occurs most frequently in persons of fine nervous organization, and is always caused by a deficiency of nerve fluid, or animal magnetism, and nothing will relieve so soon, or be so liable to secure permanent relief as the magnetism of a friend whom the patients like to have rub them and minister to them; and the best effects are where the magnetizer and patient are of different sexes, as then each receives more from the other. Sometimes relief only, (not cure) may be secured by ether, or some preparation of opium. But this supplies no magnetism,

and leaves the nerves more sensitive, and thus liable to another and worse attack.

To secure permanent relief we should first seek the cause of the deficient magnetism. This may be exhaustive labor, or worry of mind, long continued indigestion, sedentary employment, loss of sleep, leucorrhœa, or too great menstruation, and in the female, unwelcome intercourse, and we regret to be obliged to add masturbation. This last exhausts the vitality (magnetism) peculiarly in females, and we speak from knowledge when we warn mothers to remember that it is too often the cause, and in most cultivated families, and is one of the great troubles in boarding schools for girls, especially where pupils are compelled to study hard. There is *always* some one to introduce it.

No matter which of the above causes may have reduced the magnetic fluid, attention must be given to the cause or you cannot rely on a cure.

Indeed, this may be regarded as one symptom or consequence of an underlying and often long-existing cause. Seek out and treat that cause which is the real disease. But for the pain, the treatment is of two classes, viz: that for present relief, and permanent cure.

We will speak of these in the order of their efficacy.

1st.—And altogether most potent is the magnetism of some agreeable person, not of the patient's family, whose efforts are agreeable to the sufferer. This may be given by passes, and *gentle* rubbing over the whole person outside the clothing; or with far greater efficiency directly on the skin. But the magnetizer or rubber must not confine himself to the region of the pain, but endeavor to promote the circulation over the whole body. The sufferer must be quite negative and resigned, else the operator can do no good.

2d.—The sedative and tonic effects of cold. Use a *cold* wet girdle, and next a cold half pack; or, rubbing with cold wet cloth, or better, with the hand, and especially down the spine. We have done good work with snow wrapped in a dry towel, and as you rub the snow gradually melts, and thus by and by the patient is receiving an ice cold rubbing, and without any shock.

3d.—A valuable and very powerful agent is the hot fomentation (§ 8) over the stomach.

Its efficacy consists in being oft repeated (once a minute, at first) and in being applied as *hot as possible*. In connection with this a cold compress may be applied to the part affected.

4th.—Rub the patient all over with a mixture of ammonia and water, or alcohol and water; and if applied with the hand the patient gets the advantage of magnetism at the same time.

To secure permanent relief, remove the cause, and then tone up the system by gentle exercise in the open air, the frequent use of the rubbing sheet (§11), and wet girdle; or if the patient be too sensitive for the rubbing sheet, rub with a wet or even damp towel. But avoid the two errors of leaving the skin long wet, and thinking to give a milder bath by wetting the sheet in tepid water. Have the cloth as *cold* as possible but wrung dry, if the patient is very sensitive. Frequent exposure of the naked person to a current of air for one minute, will tone the nerves; and if this is done in some retired spot where the person can stand or lie exposed to a bright sun, is very valuable.

INFANTILE TREATMENT.

READERS will appreciate the purpose of these volumes, to promote health, and in every way to advance the best interest of the human race. It is of prime importance that human life has a start in the right direction. If a train of cars start with a switch turned to a side track, there will be much backing, and whistling, and stopping, and starting before the train is on its true course; and it will be doubtful if, with all the skill and energy of the engineer, the loss can be repaired, and the train get in on time.

So, many a life is turned in the wrong direction by an ignorant nurse, within one hour of its birth; and fully half of all that are born are more or less injured during their first few months. If all that we have written were absolute truth, and could be faithfully applied in practice, it would not correct half the injury done in the first four months, through the ignorance of those having charge of infants.

We will classify results.

1st.—To the lungs. The instant the external air strikes the skin, and sometimes before the body is delivered, the child, if healthy and strong, utters a peculiar gasping cry, which is exactly calculated to fill the lungs with air. It is of the *utmost importance* that the lungs be filled as much as possible at this moment, that all the minute air passages be at once opened; for it can never be done as well, and often is not done at all if not then, and the lungs remain weak. The child may be moved a little and sprinkled with cold water before tying the umbilical cord, and if it does not cry it may be dipped in warm water and then sprinkled lightly with cold soon after tying the cord, or rolled gently between the hands, and if laid down be sure and keep warm, but do not cover the nose and mouth unless you want a child with feeble lungs.

Remember ever after that we need to develop the lungs, which are now susceptible, and that there is great sympathy between the lungs and skin. Do not be afraid to let the air strike the skin, or to have the child cry when you are bathing it; but be sure and not let it be uncovered long enough to chill the skin. Crying is one means of enlarging, exercising, and developing the lungs, and if you notice the effect of cold water on the skin, and of the first gasp of a new born infant you will realize the sympathy between skin and lungs, and the importance and means of filling and developing the lungs. This will be promoted, also, by bathing the infant in warm water and then gently rubbing the skin with your hand wet with cold water, or with a soft cloth wrung *quite dry* from cold water. The little water in the cloth will not chill, but will stimulate and tone the skin.

2d.—The stomach is almost always injured, and well prepared for future dyspepsia. Our heavenly Father provides food the third day, and rarely before, and this shows that He did not design the child to have food before that time. Then the first milk from the mother's breast is unlike that secreted afterward, and exactly calculated to excite a healthy reaction in the stomach and bowels, and no human preparation can have the same effect; nor can the stomach act as well

without this influence, and if any food is introduced before the third day, even this first secretion of the mother will not have its legitimate effect. Molasses and sugar are especially injurious, and will ferment in the stomach and bowels, as if in any other warm place. There is no single reason for sweetening food for the infant, and if given before the third day, great harm is done.

This is the cause of most of the colic and other bad effects that follow the dosing of infants. If the child cries, give a little water not too cold, or else undress and bathe it and gently rub its skin, and knead its bowels.

3d.—Put the child to the breast with great regularity from the very first, once in three hours, both for the few drops it may draw, and because this will promote healthy secretion of milk, and at any rate, it will get a magnetic influence from the mother, and acquire regular habits.

NEVER put it to the breast while crying. First pacify, and then nurse.

If on the third day the mother has not milk enough, give a mixture one-third milk and two-thirds water. It will be no better for being sweetened and much sweet often injures.

4th.—Take constant care that the eyes are not exposed to too great light, or the child left often in bed or cradle where a strong light strikes on one side of the face. We have known a child's eyes to be made sore, even to suppuration, from an ignorant nurse turning its face toward the sun, to conform to somebody's whim. Be very slow in accustoming your child to a bright light, and never amuse it by turning toward a lighted lamp, except for a single moment.


5th.—Never be afraid to give an infant injections of cool water or mild soap suds, nor think there is any bad effect from repetition. Doses of medicine often injure, injections never.

6th. Accustom your child to lie down and go to sleep without jolting or rocking, which are absolutely injurious. If it cries and does not seem ready to sleep when you feel it needs it, undress it, and put a girdle wrung from cold water around its waist, and lay it down again


THE END.

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BY REV. JOHN FLEETWOOD, D.D.

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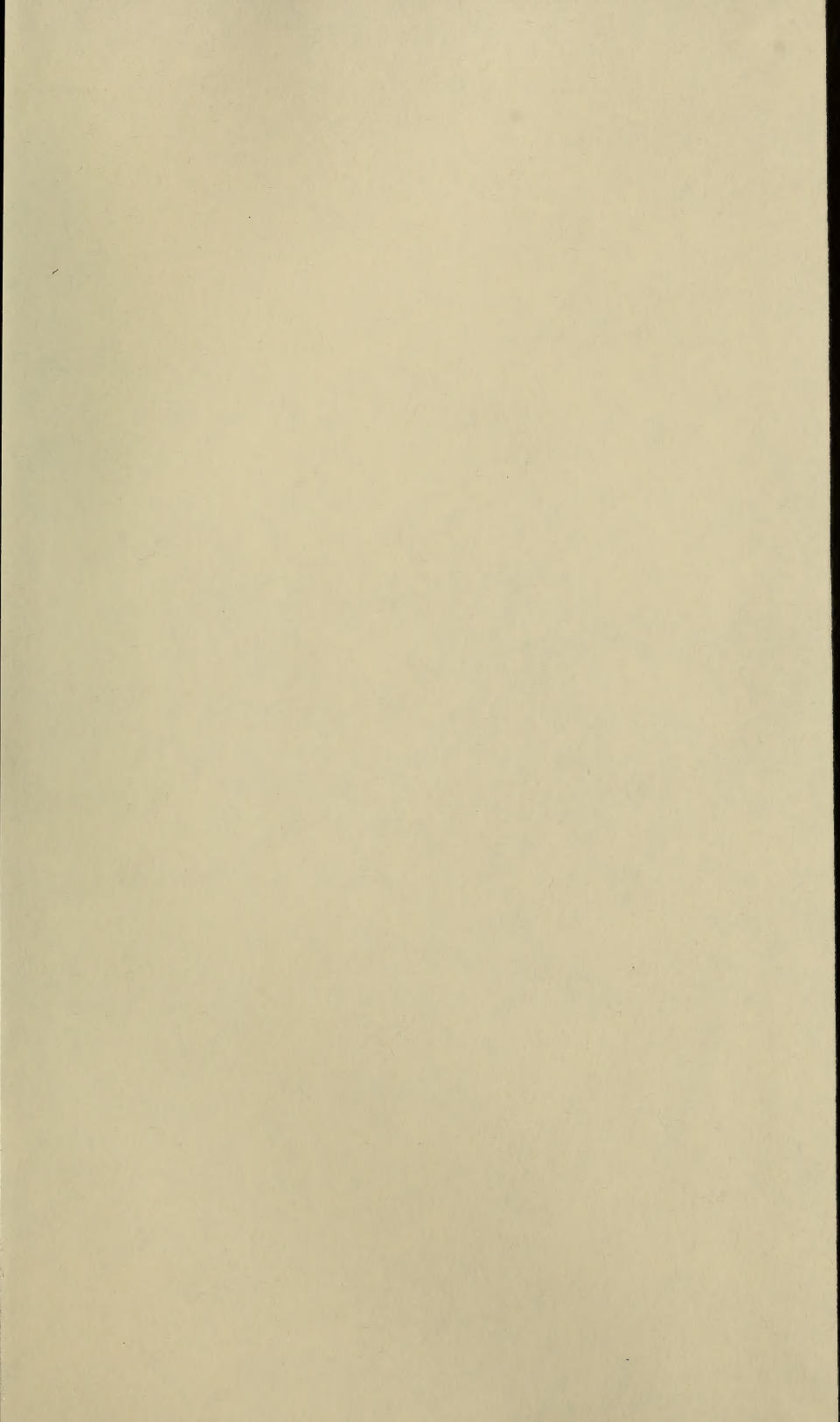
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